

# Gautham J. Mysore

<https://www.gauthamjmysore.com/>

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## EDUCATION

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Stanford University - Stanford, CA

**Ph.D. in Computer Based Music Theory and Acoustics** – June 2010

The Center for Computer Research in Music and Acoustics (CCRMA)

Advisor: Julius O. Smith III

Committee: Paris Smaragdis, Robert Tibshirani, and Malcolm Slaney

**M.S. in Electrical Engineering** – June 2008

Concentration: Machine Learning and Statistical Signal Processing

Advisor: Bernard Widrow

**M.A. in Music, Science, and Technology** – June 2005

The Center for Computer Research in Music and Acoustics (CCRMA)

Concentration: Audio Signal Processing

Advisor: Julius O. Smith III

B.M.S. College of Engineering - Bangalore, India

**B.E. in Computer Science & Engineering** – September 2002

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## EXPERIENCE

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Adobe Research – San Francisco, CA

- Head of the Audio Research Group, Senior Principal Scientist, August 2021 – Present
- Head of the Audio Research Group, Principal Scientist, July 2018 – July 2021
- Principal Scientist, November 2015 – June 2018
- Senior Research Scientist, June 2012 – November 2015
- Research Scientist, September 2010 – June 2012

Stanford University – Stanford, CA

- Adjunct Professor, September 2018 – Present
- Adjunct Lecturer, September 2016 – August 2018
- Consulting Assistant Professor, September 2014 – August 2016

Gatsby Computational Neuroscience Unit, University College London – London, UK

Visiting Researcher, October 2010 – December 2010

Adobe Advanced Technology Labs (now Adobe Research) – Newton, MA

Research Intern, June 2008 – October 2008 and July 2009 – September 2009

Mentor: Paris Smaragdis

Microsoft Research – Bangalore, India

Research Intern, July 2007 – November 2007

Porcupine Studios – Chandler, AZ

Intern, March 2004 – May 2004

Mentor: Jeffrey R. Harris

Indian Institute of Science (ECE Department) – Bangalore, India

Research Assistant in the Speech and Audio Signal Processing Group, October 2002 – July 2003

Advisor: T. V. Sreenivas

DOTCOM Software Pvt. Ltd. – Bangalore, India

Intern, May 2001 – August 2001

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## ADDITIONAL EDUCATION

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Indian Institute of Information Technology – Bangalore, India

Automatic Speech Recognition Summer School, July 2007

(Taught by faculty from Carnegie Mellon University)

Conservatory of Recording Arts & Sciences – Tempe, AZ

Master Recording Program II, May 2004

Cranes Varsity – Bangalore, India

Advanced Diploma in Digital Signal Processing, August 2002

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## AWARDS AND GRANTS

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- Best Student Paper Award (with Minz Won, Justin Salamon, Nicholas J. Bryan, and Xavier Serra) – ISMIR – November 2021
- Best Student Paper Award Nomination (with Pranay Manocha, Adam Finkelstein, Richard Zhang, Nicholas J. Bryan, and Zeyu Jin) – Interspeech, Shanghai, China – October 2020
- Best Student Paper Award (with François G. Germain and Dennis L. Sun) – Interspeech, Lyon, France – August 2013
- Best Student Paper Award (with Paris Smaragdīs and Bhiksha Raj) – The International Conference on Latent Variable Analysis and Signal Separation (LVA / ICA), St. Malo, France – September 2010
- Stanford University Fellowship (2005 – 2009)
- Audio Engineering Society Educational Foundation Grant (2004 – 2006)

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## PUBLICATIONS

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1. Minz Won, Justin Salamon, Nicholas J. Bryan, Gautham J. Mysore, Xavier Serra, “Embedding Spaces for Matching Music to Stories” in the *Proceedings of the International Society of Music Information Retrieval Conference (ISMIR)*. November 2021  
**Best Student Paper Award**
2. Oriol Nieto, Gautham J. Mysore, Cheng-i Wang, Jordan B. L. Smith, Jan Schlüter, Thomas Grill, Brian McFee, “Audio-Based Music Structure Analysis: Current Trends, Open Challenges, and Applications”, *Transactions of the International Society for Music Information Retrieval (TISMIR)*, 2020.

3. Max Morrison, Zeyu Jin, Justin Salamon, Nicholas J. Bryan, Gautham J. Mysore, "Controllable Neural Prosody Synthesis", in the *Proceedings of Interspeech*, Shanghai, China. October 2020
4. Pranay Manocha, Adam Finkelstein, Richard Zhang, Nicholas J. Bryan, Gautham J. Mysore, Zeyu Jin, "A Differentiable Perceptual Audio Metric Learned from Just Noticeable Differences", in the *Proceedings of Interspeech*, Shanghai, China. October 2020  
**Best Student Paper Award Nomination**
5. Meinard Muller, Bryan Pardo, Gautham J. Mysore, Vesa Valimiki, "Recent Advances in Music Signal Processing", *IEEE Signal Processing Magazine*, 36(1): 17-19, 2019
6. Prem Seetharaman, Gautham J. Mysore, Bryan Pardo, Paris Smaragdis, Celso Gomes, "VoiceAssist: Guiding Users to High-Quality Voice Recordings", in the *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI)*, Glasgow, Scotland. May 2019
7. Bernd Huber, Hijung Shin, Bryan Russell, Oliver Wang, Gautham J. Mysore, "B-Script: Transcript-based B-roll Video Editing with Recommendations", in the *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI)*, Glasgow, Scotland. May 2019
8. Prem Seetharaman, Gautham J. Mysore, Paris Smaragdis, Bryan Pardo, "Blind Estimation of the Speech Transmission Index for Speech Quality Prediction", in the Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Calgary, Canada. April 2018
9. Zeyu Jin, Adam Finkelstein, Gautham J. Mysore, Jingwan Lu, "FFNet: A Real-time Speaker-dependent Neural Vocoder", in the Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Calgary, Canada. April 2018
10. Mark Cartwright, Bryan Pardo, Gautham J. Mysore, "Crowdsourced Pairwise-comparison for Source Separation Evaluation", in the Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Calgary, Canada. April 2018
11. Zhengshan Shi, Gautham J. Mysore, "LoopMaker: Automatic Creation of Music Loops from Pre-recorded Music", in the Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI), Montreal, Canada. April 2018
12. Zhengshan Shi, Gautham J. Mysore, "MedleyAssistant – A System for Personalized Music Medley Creation", in the Proceedings of the ACM IUI Workshop on Intelligent Music Interfaces for Listening and Creation (MILC), Tokyo, Japan. March 2018
13. Paris Smaragdis, Gautham J. Mysore, Nasser Mohammadiha, "Dynamic Non-negative Models for Audio Source Separation", Book Chapter in *Audio Source Separation*, Springer, 2018
14. Cédric Févotte, Paris Smaragdis, Nasser Mohammadiha, Gautham J. Mysore, "Temporal extensions of Nonnegative Matrix Factorization", Book Chapter in *Audio Source Separation and Speech Enhancement*, Wiley, 2018
15. Cheng-i Wang, Gautham J. Mysore, Shlomo Dubnov, "Re-visiting the Music Segmentation Problem with Crowdsourcing", in the *Proceedings of the International Society of Music Information Retrieval Conference (ISMIR)*, Suzhou, China. October 2017
16. Shrikant Venkataramani, Paris Smaragdis, Gautham J. Mysore, "AutoDub: Automatic Redubbing for Voiceover Editing", in the *Proceedings of the ACM Symposium on User Interface Software and Technology (UIST)*, Quebec City, Canada. October 2017

17. Zeyu Jin, Gautham J. Mysore, Stephen DiVerdi, Jingwan Lu, Adam Finkelstein, "VoCo: Text-based Insertion and Replacement in Audio Narration", in the *Proceedings of SIGGRAPH*, Los Angeles, CA. July 2017  
**Extensive Press Coverage**
18. Neal Wadhwa, Hao-Yu Wu, Abe Davis, Michael Rubinstein, Eugene Shih, Gautham J. Mysore, Justin G. Chen, Oral Buyukozturk, John V. Guttag, William T. Freeman, and Frédo Durand, "Eulerian Video Magnification and Analysis", *Communications of the ACM*, Vol. 60, Iss. 1. January 2017
19. Yang Zhang, Gautham J. Mysore, Floraine Berthouzoz, Mark Hasegawa-Johnson, "Analysis of Prosody Increment Induced by Pitch Accents for Automatic Emphasis Correction", in the *Proceedings of Speech Prosody*, Boston, MA. June 2016
20. François G. Germain, Gautham J. Mysore, Takako Fujioka, "Equalization Matching of Speech Recordings in Real-World Environments", in the *Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Shanghai, China. March 2016
21. Cheng-i Wang, Gautham J. Mysore, "Structural Segmentation with the Variable Markov Oracle and Boundary Adjustment", in the *Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Shanghai, China. March 2016
22. Mark Cartwright, Bryan Pardo, Gautham J. Mysore, Matt Hoffman, "Fast and Easy Crowdsourced Perceptual Audio Evaluation", in the *Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Shanghai, China. March 2016
23. Zeyu Jin, Adam Finkelstein, Stephen DiVerdi, Jingwan Lu, Gautham J. Mysore, "CUTE: A Concatenative Method for Voice Conversion using Exemplar based Unit Selection", in the *Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Shanghai, China. March 2016
24. Steve Rubin, Floraine Berthouzoz, Gautham J. Mysore, Maneesh Agrawala, "Capture-Time Feedback for Recording Scripted Narration", to appear in the *Proceedings of the ACM Symposium on User Interface Software and Technology (UIST)*, Charlotte, NC. November 2015
25. François G. Germain, Gautham J. Mysore, "Speaker and Noise Independent Online Single Channel Speech Enhancement", in the *Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Brisbane, Australia. April 2015
26. Dawen Liang, Matthew D. Hoffman, Gautham J. Mysore, "Speech Dereverberation using a Learned Speech Model", in the *Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Brisbane, Australia. April 2015
27. Minje Kim, Paris Smaragdīs, Gautham J. Mysore, "Efficient Manifold Preserving Audio Source Separation using Locality Sensitive Hashing", in the *Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Brisbane, Australia. April 2015
28. Valkyrie Savage, Andrew Head, Björn Hartmann, Dan Goldman, Gautham J. Mysore, Wilmot Li, "Lamello: Passive Acoustic Sensing for Tangible Input Components", in the *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI)*, Seoul, Korea. April 2015
29. Gautham J. Mysore, "Can We Automatically Transform Speech Recorded on Common Consumer Devices in Real-World Environments into Professional Production Quality Speech? - A Dataset, Insights, and Challenges", *IEEE Signal Processing Letters*, Vol. 22, No. 8, August 2015

30. Abe Davis, Michael Rubinstein, Neal Wadhwa, Gautham J. Mysore, Fredo Durand, William T. Freeman, "The Visual Microphone: Passive Recovery of Sound from Video", in the *Proceedings of SIGGRAPH*, August 2014  
**Extensive Press Coverage**
31. François G. Germain, Gautham J. Mysore, "Stopping Criteria for Non-negative Matrix Factorization Based Supervised and Semi-Supervised Source Separation", to appear in the *IEEE Signal Processing Letters*, Vol. 21, No. 9, October 2014
32. Nicolas Boulanger-Lewandowski, Gautham J. Mysore, Matthew Hoffman, "Exploiting Long-Term Temporal Dependencies in NMF using Recurrent Neural Networks with Application to Source Separation", in the *Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Florence, Italy. May 2014
33. Dawen Liang, Daniel P. W. Ellis, Matthew Hoffman, Gautham J. Mysore, "Speech Decoloration based on the Product-of-Filters Model", in the *Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Florence, Italy. May 2014
34. Paris Smaragdis, Cédric Févotte, Gautham J. Mysore, Nasser Mohammadiha, Matthew Hoffman, "Static and Dynamic Source Separation Using Non-Negative Factorizations: A unified view", in the *IEEE Signal Processing Magazine Special Issue on Source Separation and Applications*, May 2014
35. Dawen Liang, Matthew Hoffman, Gautham J. Mysore, "A Generative Product of Filter Model of Audio", to appear in the *Proceedings of the International Conference on Learning Representations (ICLR)*, Banff, Canada. April 2014
36. Nicholas J. Bryan, Gautham J. Mysore, Ge Wang, "ISSE: An Interactive Source Separation Editor", to appear in the *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI)*, Toronto, Canada. April 2014
37. Nicholas J. Bryan, Gautham J. Mysore, Ge Wang, "Source Separation of Polyphonic Music with Interactive User-Feedback on a Piano Roll Display", in the *Proceedings of the International Society of Music Information Retrieval Conference (ISMIR)*, Curitiba, Brazil. November 2013
38. Zafar Rafii, François G. Germain, Dennis L. Sun, Gautham J. Mysore, "Combining Modeling of Singing Voice and Background Music for Automatic Separation of Musical Mixtures", in the *Proceedings of the International Society of Music Information Retrieval Conference (ISMIR)*, Curitiba, Brazil. November 2013
39. Steve Rubin, Floraine Berthouzoz, Gautham J. Mysore, Wilmot Li, Maneesh Agrawala, "Content-Based Tools for Editing Audio Stories", in the *Proceedings of the ACM Symposium on User Interface Software and Technology (UIST)*, St. Andrews, Scotland. October 2013
40. François G. Germain, Dennis L. Sun, Gautham J. Mysore, "Speaker and Noise Independent Voice Activity Detection", in the *Proceedings of Interspeech*, Lyon, France. August 2013  
**Best Student Paper Award**
41. Nicholas J. Bryan, Gautham J. Mysore, "An Efficient Posterior Regularized Latent Variable Model for Interactive Source Separation", in the *Proceedings of the International Conference on Machine Learning (ICML)*, Atlanta, GA. June 2013  
**AES Student Design Competition Gold Award**
42. Dennis L. Sun, Gautham J. Mysore, "Universal Speech Models for Speaker Independent Single Channel Source Separation", in the *Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Vancouver, Canada. May 2013

43. Nicholas J. Bryan, Gautham J. Mysore, "Interactive Refinement of Supervised and Semi-Supervised Sound Source Separation Estimates", in the *Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Vancouver, Canada. May 2013
44. Steve Rubin, Floraine Berthouzoz, Gautham J. Mysore, Wilmot Li, Maneesh Agrawala, "UnderScore: Musical Underlays for Audio Stories", in the *Proceedings of the ACM Symposium on User Interface Software and Technology (UIST)*, Cambridge, MA. October 2012
45. Jinyu Han, Gautham J. Mysore, Bryan Pardo, "Language Informed Bandwidth Expansion", in the *Proceedings of the IEEE International Workshop on Machine Learning for Signal Processing (MLSP)*, Santander, Spain. September 2012
46. Zhiyao Duan, Gautham J. Mysore, Paris Smaragdis, "Speech Enhancement by Online Non-negative Spectrogram Decomposition in Non-stationary Noise Environments", in the *Proceedings of Interspeech 2012*, Portland, OR. September 2012
47. Gautham J. Mysore, Maneesh Sahani, "Variational Inference in Non-negative Factorial Hidden Markov Models for Efficient Audio Source Separation", in the *Proceedings of the International Conference on Machine Learning (ICML)*, Edinburgh, Scotland. June 2012
48. Paris Smaragdis, Gautham J. Mysore, "Following Musical Sources by Example", in the *Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Kyoto, Japan. March 2012  
**Invited Paper**
49. Nicholas J. Bryan, Paris Smaragdis, Gautham J. Mysore, "Clustering and Synchronizing Multi-camera Video via Landmark Cross-correlation", in the *Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Kyoto, Japan. March 2012
50. Brian King, Paris Smaragdis, Gautham J. Mysore, "Noise-Robust Dynamic Time Warping Using PLCA Features", in the *Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Kyoto, Japan. March 2012
51. Gautham J. Mysore, Paris Smaragdis, "A Non-negative Approach to Language Informed Speech Separation", in the *Proceedings of the International Conference on Latent Variable Analysis and Signal Separation (LVA / ICA)*, Tel-Aviv, Israel. March 2012
52. Jinyu Han, Gautham J. Mysore, Bryan Pardo, "Audio Imputation Using the Non-negative Hidden Markov Model", in the *Proceedings of the International Conference on Latent Variable Analysis and Signal Separation (LVA / ICA)*, Tel-Aviv, Israel. March 2012
53. Juhan Nam, Gautham J. Mysore, Paris Smaragdis, "Sound Recognition in Mixtures", in the *Proceedings of the International Conference on Latent Variable Analysis and Signal Separation (LVA / ICA)*, Tel-Aviv, Israel. March 2012
54. Zhiyao Duan, Gautham J. Mysore, Paris Smaragdis, "Online PLCA for Real-Time Semi-supervised Source Separation", in the *Proceedings of the International Conference on Latent Variable Analysis and Signal Separation (LVA / ICA)*, Tel-Aviv, Israel. March 2012
55. Gautham J. Mysore, Paris Smaragdis, "A Convolutional Spectral Decomposition Approach to the Separation of Feedback from Target Speech", in the *Proceedings of the IEEE International Workshop on Machine Learning for Signal Processing (MLSP)*, Beijing, China. September 2011
56. Gautham J. Mysore, Paris Smaragdis, "A Non-Negative Approach to Semi-supervised Separation of Speech from Noise with the use of Temporal Dynamics" in the *Proceedings of the IEEE*

*International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Prague, Czech Republic. May 2011

57. Gautham J. Mysore, Paris Smaragdis, Bhiksha Raj, "Non-negative Hidden Markov Modeling of Audio with Application to Source Separation", in the *Proceedings of the International Conference on Latent Variable Analysis and Signal Separation (LVA / ICA)*, St. Malo, France. September 2010

**Best Student Paper Award**

58. Juhan Nam, Gautham J. Mysore, Joachim Ganseman, Kyogu Lee, Jonathan S. Abel, "A Super-Resolution Spectrogram Using Coupled PLCA", in the *Proceedings of Interspeech 2010*, Makuhari, Japan. September 2010
59. Joachim Ganseman, Paul Scheunders, Gautham J. Mysore, Jonathan S. Abel, "Evaluation of a Score Informed Source Separation System", in the *Proceedings of the International Society of Music Information Retrieval Conference (ISMIR)*, Utrecht, Netherlands. August 2010
60. Joachim Ganseman, Paul Scheunders, Gautham J. Mysore, Jonathan S. Abel, "Source Separation by Score Synthesis", in the *Proceedings of the International Computer Music Conference (ICMC)*, New York, NY. June 2010
61. Paris Smaragdis, Gautham J. Mysore, "Separation by "Humming": User Guided Sound Extraction from Monophonic Mixtures" in the *Proceedings of the IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA)*, New Paltz, New York. October 2009
62. Gautham J. Mysore, Paris Smaragdis, "Relative Pitch Estimation of Multiple Instruments" in the *Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Taipei, Taiwan. April 2009
63. Paris Smaragdis, Madhusudana Shashanka, Bhiksha Raj, Gautham J. Mysore, "Probabilistic Factorization of Non-Negative Data with Entropic Co-occurrence Constraints" in the *Proceedings of the 8th International Conference on Independent Component Analysis and Signal Separation (ICA)*. Paraty, Brazil. March 2009
64. Gautham J. Mysore, Ryan J. Cassidy, Julius O. Smith III, "Singer-Dependent Falsetto Detection for Live Vocal Processing Based on Support Vector Classification" in the *Proceedings of the IEEE Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA. Oct. 2006
65. Juan-Pablo Cáceres, Gautham J. Mysore, Jeffrey Treviño, "SCUBA: The Self-Contained Unified Bass Augmenter" in the *Proceedings of the International Conference on New Interfaces for Musical Expression (NIME)*, Vancouver, Canada. May 2005

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**ABSTRACTS / EXTENDED ABSTRACTS**

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1. Nicholas J. Bryan, Gautham J. Mysore, Ge Wang, "ISSE: An Interactive Source Separation Editor", in the *Neural Information Processing Systems (NIPS) Workshop on Machine Learning Open Source Software*, Lake Tahoe, NV. December 2013
2. Minje Kim, Gautham J. Mysore, Paris Smaragdis, "Probabilistic Latent Component Sharing for the Separation of Non-Orthogonally Overlapping Sources", in the *Speech and Audio in the Northeast Workshop (SANE)*, Cambridge, MA. October 2013
3. Nicholas J. Bryan, Gautham J. Mysore, "Interactive User-Feedback for Sound Source Separation", in the *International Conference on Intelligent User Interfaces (IUI) Workshop on Interactive Machine Learning*, Santa Monica, CA. March 2013

4. Gautham J. Mysore, "A Block Sparsity Approach to Multiple Dictionary Learning for Audio Modeling", in the *International Conference on Machine Learning (ICML) Workshop on Sparsity, Dictionaries, and Projections in Machine Learning and Signal Processing*, Edinburgh, Scotland. June 2012
5. Paris Smaragdis, Gautham J. Mysore, "Sound Separation by Humming", in the Meeting of the Acoustical Society of America, Cancun, Mexico, November 2010
6. Gautham J. Mysore, Paris Smaragdis, "Multipitch Estimation using Sparse Impulse Distributions and Instrument Specific Priors" in the *International Conference on Machine Learning (ICML) Workshop on Sparse Methods for Music Audio*, Montreal, Quebec. June 2009
7. Ryan J. Cassidy, Gautham J. Mysore, "Automatic Detection of Head Voice in Sung Musical Signals via Machine Learning Classification of Time-Varying Partial Intensities", in the Meeting of the Acoustical Society of America, Honolulu, Hawaii, December 2006

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## PATENTS

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1. Prem Seetharaman, Gautham J. Mysore, Bryan Pardo, "Sound Quality Prediction and Interface to Facilitate High Quality Voice Recordings" - U.S. Patent #11138989 issued in October 2021
2. Bernd Huber, Hijung Shin, Bryan Russell, Oliver Wang, Gautham J. Mysore, "Transcript-based Insertion of Secondary Video Content into Primary Video Content" - U.S. Patent #11049525 issued in June 2021
3. Zeyu Jin, Adam Finkelstein, Gautham J. Mysore, Jingwan Lu, "Real-time Speaker Dependent Neural Vocoder" - U.S. Patent #10770063 issued in September 2020
4. Brian King, Gautham J. Mysore, Paris Smaragdis, "Time Interval Sound Alignment" - U.S. Patent #10638221 issued in April 2020
5. Zhengshan Shi, Gautham J. Mysore, "Generating Audio Loops from an Audio Track" - U.S. Patent #10460763 issued in October 2019
6. Shrikant Venkataramani, Paris Smaragdis, Gautham J. Mysore, "Automatic Voiceover Correction System" - U.S. Patent #10453475 issued in October 2019
7. Zeyu Jin, Gautham J. Mysore, Stephen DiVerdi, Jingwan Lu, Adam Finkelstein, "Text-based Insertion and Replacement in Audio Narration" - U.S. Patent #10347238 issued in July 2019
8. Gautham J. Mysore, Paris Smaragdis, "Variable Sound Decomposition Masks" - U.S. Patent #10262680 issued in April 2019
9. Brian King, Gautham J. Mysore, Paris Smaragdis, "Sound Rate Modification" - U.S. Patent #10249321 issued in April 2019
10. Dawen Liang, Matthew Douglas Hoffman, Gautham J. Mysore, "Sound Processing using a Product-of-Filters Model" - U.S. Patent #10176818 issued in January 2019
11. Ramin Anushiravani, Paris Smaragdis, Gautham J. Mysore, "Reverberation Matching of Speech" - U.S. Patent #10069028 issued in September 2018
12. Cheng-i Wang, Gautham J. Mysore, "Intuitive Music Visualization using Efficient Structural Segmentation" - U.S. Patent#10074350 issued in September 2018



13. Minje Kim, Paris Smaragdis, Gautham J. Mysore, "Irregular Pattern Identification using Landmark based Convolution" - U.S. Patent #10002622 issued in June 2018
14. François G. Germain, Gautham J. Mysore, "Performance Metric Based Stopping Criteria for Iterative Algorithms" - U.S. Patent #9866954 issued in January 2018
15. Yang Zhang, Gautham J. Mysore, Floraine Berthouzoz, "Automatic Emphasis of Spoken Words" - U.S. Patent #9852743 issued in December 2017
16. Minje Kim, Gautham J. Mysore, Paris Smaragdis, Peter Merrill, "Irregularity Detection in Music" - U.S. Patent #9734844 issued in August 2017
17. Nicolas Boulanger-Lewandowski, Gautham J. Mysore, Matthew Hoffman, "Non-negative Matrix Factorization Regularized by Recurrent Neural Networks for Audio Processing" - U.S. patent #9721202 issued in August 2017
18. Dawen Liang, Matthew D. Hoffman, Gautham J. Mysore, "Dereverberation Using a Learned Speech Model" - U.S. Patent #9607627 issued in March 2017
19. François G. Germain, Gautham J. Mysore, "Acoustic Matching and Splicing of Sound Tracks" - U.S. Patent #9601124 issued in March 2017
20. Minje Kim, Gautham J. Mysore, Paris Smaragdis, Peter Merrill, "Automatic Detection of Dense Ornamentation in Music" - U.S. Patent #9514722 issued in December 2016
21. Brian King, Gautham J. Mysore, Paris Smaragdis, "Sound Feature Priority Alignment" - U.S. Patent #9451304 issued in September 2016
22. Minje Kim, Paris Smaragdis, Gautham J. Mysore, "Pattern Matching of Sound Data using Hashing" - U.S. Patent #9449085 issued in September 2016
23. Dennis L. Sun, Gautham J. Mysore, "General Sound Decomposition Models" - U.S. Patent #9437208 issued in September 2016
24. Brian King, Gautham J. Mysore, Paris Smaragdis, "Sound Alignment Using Timing Information" - U.S. Patent #9355649 issued in May 2016
25. Minje Kim, Gautham J. Mysore, Paris Smaragdis, "Multichannel Sound Source Identification and Localization" - U.S. Patent #9351093 issued in May 2016
26. Dennis L. Sun, Gautham J. Mysore, "Joint Sound Model Generation Techniques" - U.S. Patent #9318106 issued in April 2016
27. Brian King, Gautham J. Mysore, Paris Smaragdis, "Sound Alignment User Interface" - U.S Patent #9201580 issued in December 2015
28. Gautham J. Mysore, Paris Smaragdis, Juhan Nam, "Sound Mixture Recognition" – U.S. Patent #9165565 issued in October 2015
29. Paris Smaragdis, Gautham J. Mysore, "Feature Estimation in Sound Sources" - U.S Patent #8965832 issued in February 2015
30. Paris Smaragdis, Gautham J. Mysore, "User-Guided Audio Selection from Complex Sound Mixtures" - U.S Patent #8954175 issued in February 2015

31. Nicholas J. Bryan, Paris Smaragdis, Gautham J. Mysore, "Clustering and Synchronizing Content" - U.S Patent #8924345 issued in December 2014
32. Gautham J. Mysore, Paris Smaragdis, "Language Informed Source Separation" - U.S Patent #8843364 issued in September 2014
33. Gautham J. Mysore, Paris Smaragdis, "Semi-supervised Source Separation using Non-negative Techniques" - U.S Patent #8812322 issued in August 2014
34. Gautham J. Mysore, Paris Smaragdis, Brian King, "Noise Robust Template Matching" - U.S Patent #8775167 issued in July 2014
35. Paris Smaragdis, Gautham J. Mysore, "System and Method for Acoustic Echo Cancellation using Spectral Decomposition" - U.S. Patent #8724798 issued in May 2014
36. Gautham J. Mysore, Paris Smaragdis, "Non-negative Hidden Markov Modeling of Signals" - U.S. Patent #8554553 issued in October 2013
37. Paris Smaragdis, Gautham J. Mysore, "Method and Apparatus for Relative Pitch Tracking of Multiple Arbitrary Sounds" - U.S. Patent #8380331 issued in February 2013

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## TEACHING AND MENTORING

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- Mentored the following interns at Adobe Research:
  - Bryan Wang (2021-2022) - Department of Computer Science, University of Toronto
  - Gabriel Zalles (2021) - Computer Music, UC San Diego
  - Max Morrison (2019) - Department of Electrical Engineering and Computer Science, Northwestern University
  - Bernd Huber (2018) - Department of Computer Science, Harvard University
  - Lijiang Guo (2018) – Department of Statistics, Indiana University Bloomington
  - Zeyu Jin (2015-2017) - Department of Computer Science, Princeton
  - Prem Seetharaman (2017) - Department of Electrical Engineering and Computer Science, Northwestern University
  - Shrikant Venkataramani (2016-2017) - Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign
  - Mazin Bokhari (2017) - Department of Statistics, Stanford University
  - Sharath Adavanne (2017) - Department of Signal Processing, Tampere University
  - Kitty Shi (2016) – The Center for Computer Research in Music and Acoustics (CCRMA), Stanford University
  - Cheng-i Wang (2015-2016) - Computer Music, UC San Diego
  - Minje Kim (2013-2015) - Department of Computer Science, University of Illinois at Urbana-Champaign
  - Anders Øland (2015) - Department of Computer Science, Carnegie Mellon University
  - Yang Zhang (2015) - Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign
  - Zeyu Jin (2015) - Department of Computer Science, Princeton University
  - Mark Cartwright (2015) - Department of Electrical Engineering and Computer Science, Northwestern University
  - Ramin Anushiravani (2015) - Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign
  - François Germain (2013-2014) – The Center for Computer Research in Music and Acoustics (CCRMA), Stanford University
  - Minje Kim (2013-2014) – Department of Computer Science, University of Illinois at Urbana-Champaign

- Dawen Liang (2013-2104) – Department of Electrical Engineering, Columbia University
  - Steve Rubin (2012, 2014) – Department of Electrical Engineering and Computer Science, UC Berkeley (now at Detour)
  - Valkyrie Savage (2014) – Department of Electrical Engineering and Computer Science, UC Berkeley
  - Nicolas Boulanger-Lewandowski (2013) – Department of Computer Science, Université de Montréal
  - Nicholas Bryan (2011-2013) – The Center for Computer Research in Music and Acoustics (CCRMA), Stanford University
  - Dennis Sun (2012-2013) – Department of Statistics, Stanford University
  - Antonio Juarez (2012) – Department of Machine Learning, Carnegie Mellon University
  - Brian King (2011-2012) – Department of Electrical Engineering, University of Washington
  - Juhan Nam (2011) – The Center for Computer Research in Music and Acoustics (CCRMA), Stanford University (Now at the Korea Advanced Institute for Science and Technology)
  - Zhiyao Duan (2011) – Department of Electrical Engineering and Computer Science, Northwestern University
  - Mofei Zhu (2011) – The Center for Computer Research in Music and Acoustics (CCRMA), Stanford University
- Ph.D. thesis committees
    - Zeyu Jin – Princeton University – May 2018
    - Minje Kim – University of Illinois at Urbana-Champaign – March 2015
    - Jinyu Han – Northwestern University – June 2012
  - Invited speaker at the Winter School on Speech and Audio Processing (WiSSAP) 2012 at the Indian Institute of Science, Bangalore, India
  - Invited speaker at the Winter School on Speech and Audio Processing (WiSSAP) 2011 at the Indian Institute of Technology, Guwahati, India
  - Teaching Assistant for the following courses at Stanford University:
    - Music 151 – Music Perception and Cognition, Winter 2009
    - Music 220C – Research Seminar in Computer Generated Music, Spring 2008
    - Music 220B – Compositional Algorithms, Psychoacoustics, and Spatial Processing, Winter 2008
    - Music 150 – Musical Acoustics, Winter 2007
    - Music 192A – Foundations of Sound Recording Technologies, Fall 2006

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## SELECTED TALKS

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- Telecom Paristech, *Signals, Statistics and Machine Learning Team* – Paris, France. October 2019
- Johns Hopkins University, *Center for Language and Speech Processing* – Baltimore, MD. October 2018
- Stanford University, *The Center for Computer Research in Music and Acoustics (CCRMA)* – BISH BASH. Stanford, CA. January 2017
- Apple, Cupertino, CA. October 2015
- IEEE Signal Processing Society Santa Clara Valley Chapter, Sunnyvale, CA. August 2015

- Stanford University, *The Center for Computer Research in Music and Acoustics (CCRMA)* – Hearing Seminar. Stanford, CA. May 2015
- Stanford University, *The Center for Computer Research in Music and Acoustics (CCRMA)* – Music Information Retrieval Workshop. Stanford, CA. June 2013
- Izotope – San Francisco, CA. February 2013
- Columbia University, *Department of Electrical Engineering* – New York, NY. October 2012
- Lyric Semiconductors – Cambridge, MA. October 2012
- Mitsubishi Electric Research Labs (MERL) – Cambridge, MA. October 2012
- Universitat Pompeu Fabra, *Music Technology Group* – Barcelona, Spain. October 2012
- Northwestern University, *Department of Electrical Engineering and Computer Science* – Evanston, IL. June 2012
- University of Tokyo, *Department of Information Physics and Computing* – Tokyo, Japan. April 2012
- Tsinghua University, *Department of Automation* – Beijing, China. September 2011
- Dolby Research – Beijing, China. September 2011
- Plantronics – Santa Cruz, CA. June 2011
- Stanford University, *The Center for Computer Research in Music and Acoustics (CCRMA)* – Stanford, CA. May 2011
- Queen Mary University London, *Center for Digital Music* – London, UK. December 2010
- University College London, *Gatsby Computational Neuroscience Unit* – London, UK. October 2010
- University of Washington, *Department of Electrical Engineering* – Seattle, WA. November 2010
- Indian Institute of Science, *Department of Electrical Communication Engineering* – Bangalore, India. August 2010
- Stanford University, *Department of Statistics* – Stanford, CA. June 2010
- Samsung R&D Center – San Jose, CA. November 2009
- Google Research – Mountain View, CA. July 2009
- Stanford University, *The Center for Computer Research in Music and Acoustics (CCRMA)* – Music Information Retrieval Workshop. Stanford, CA. July 2009
- McGill University, *Music Technology Lab* – Montreal, Canada. June 2009
- Stanford University, *Department of Statistics* – Statistical Learning Seminar. Stanford, CA. February 2009

- Indian Institute of Science, *Department of Electrical Communication Engineering* – Speech and Audio Seminar. Bangalore, India. June 2004

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## ACADEMIC SERVICE

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- Technical Program Co-chair for the IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA) 2017
- Technical committee member for IEEE Audio and Acoustic Signal Processing (2012-2017)
- Vice Chair of the AES Technical Committee on Semantic Audio Analysis (2013-2016)
- Chair and organizer for the workshop on Audio Source Separation at the 2013 AES Convention
- Industrial board member for the International Workshop on Machine Listening in Multisource Environments (CHiME) 2013
- Program committee member for the IEEE International Conference on Multimedia & Expo (ICME) Workshop on Broadcast and User-generated Content Recognition and Analysis 2013
- Chair for various sessions at ICASSP
- Program committee member for the IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA) 2011
- Reviewer for the following journals
  - IEEE Transactions on Audio, Speech, and Language Processing
  - IEEE Transactions on Signal Processing
  - IEEE Transactions on Pattern Analysis and Machine Intelligence
  - IEEE Signal Processing Magazine
  - IEEE Journal of Selected Topics in Signal Processing
  - IEEE Signal Processing Letters
  - Elsevier Signal Processing
  - Elsevier Digital Signal Processing
  - Elsevier Speech Communication
  - Elsevier Computer Speech and Language
  - EURASIP Journal on Audio, Speech, and Music Processing
- Reviewer for the following conferences
  - ICASSP (IEEE International Conference on Acoustics, Speech, and Signal Processing)
  - NIPS (Neural Information Processing Systems)
  - ICML (International Conference on Machine Learning)
  - LVA / ICA (International Conference on Latent Variable Analysis and Signal Separation)
  - WASPAA (IEEE Workshop on Applications of Signal Processing to Audio and Acoustics)
  - ISMIR (International Conference on Music Information Retrieval)
  - AES (Audio Engineering Society)
  - DAFX (International Conference on Digital Audio Effects)
  - ICMC (International Computer Music Conference)
  - SAPA (Workshop on Statistical and Perceptual Audition)
  - CHI (ACM Conference on Human Factors in Computing Systems)
  - UIST (ACM Symposium on User Interface Software and Technology)

- SIGGRAPH ASIA (Conference and Exhibition on Computer Graphics and Interactive Techniques)

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## PROFESSIONAL MEMBERSHIPS

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- IEEE (Institute of Electrical and Electronics Engineers)
  - Signal Processing Society
  - Technical committee affiliate member for Machine Learning for Signal Processing
- ISCA (International Speech Communication Association)
  - Member of Special Interest Group on Robust Speech Processing
- ACM (Association for Computing Machinery)
- AES (Audio Engineering Society)