

# Brian McFee

University of California, San Diego  
Department of Computer Science  
9500 Gilman Drive  
La Jolla, CA 92093-0404

Email: [bmcfee@cs.ucsd.edu](mailto:bmcfee@cs.ucsd.edu)  
Homepage: <http://www-cse.ucsd.edu/~bmcfee/>

## Research interests

Machine learning, computer audition, multimedia information retrieval, and recommender systems.

## Education

UNIVERSITY OF CALIFORNIA, SAN DIEGO La Jolla, CA  
Ph.D. candidate, Computer Science and Engineering.  
Advisor: Gert Lanckriet.  
Projected graduation: Spring 2012.  
C.Phil. Computer Science and Engineering, 2009.  
M.S. Computer Science and Engineering, 2008.

UNIVERSITY OF CALIFORNIA, SANTA CRUZ Santa Cruz, CA  
B.S. Computer Science with Highest Honors, 2003.

COLLEGE OF MARIN Kentfield, CA  
A.A. Mathematics, 2001.

## Employment

SOCIAL SOURCE FOUNDATION San Francisco, CA  
*Software engineer, 2005.*

GROUNDSPRING.ORG San Francisco, CA  
*Software engineer, 2004.*

TKO SOFTWARE Santa Cruz, CA  
*Quality assurance engineer, 2003.*

VA LINUX SYSTEMS Sunnyvale, CA  
*Artist, Linux.com, 1999–2001.*

## Awards and honors

**ISMIR Best poster presentation award**, for **The natural language of playlists**, 2011.

**Qualcomm Innovation Fellowship**, 2010–2011. (With L. Barrington.)

**ISMIR Best presentation award**, for **Heterogeneous embedding for subjective artist similarity**, 2009.

## Invited seminars

**Learning musical similarity from heterogeneous sources**, Pomona College, March 2010.

## Research

### *Journal articles*

B. McFee, L. Barrington, and G. Lanckriet, **Learning content similarity for music recommendation**, to appear in *IEEE Transactions on Audio, Speech and Language Processing (IEEE-TASLP)*, 2012.

B. McFee, G. Lanckriet, **Learning multi-modal similarity**. *Journal of Machine Learning Research (JMLR)*, February 2011.

B. McFee, C. Galleguillos, and G. Lanckriet, **Contextual object localization with multiple kernel nearest neighbor**. *IEEE Transactions on Image Processing (IEEE-TIP)*, February 2011.

### *Peer-reviewed conference publications*

B. McFee and G. Lanckriet, **The natural language of playlists**, *Twelfth International Society for Music Information Retrieval (ISMIR) Conference*, 2011.

B. McFee and G. Lanckriet, **Large-scale music similarity search with spatial trees**, *Twelfth International Society for Music Information Retrieval (ISMIR) Conference*, 2011.

C. Galleguillos, B. McFee, S. Belongie, and G. Lanckriet, **From region similarity to category discovery**, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2011.

B. McFee, L. Barrington, and G. Lanckriet, **Learning similarity from collaborative filters**, *Eleventh International Society for Music Information Retrieval (ISMIR) Conference*, 2010.

N. Koenigstein, G. Lanckriet, B. McFee, and Y. Shavitt, **Collaborative filtering based on P2P networks**, *Eleventh International Society for Music Information Retrieval (ISMIR) Conference*, 2010.

B. McFee and G. Lanckriet, **Metric learning to rank**, *27th International Conference on Machine Learning*, 2010.

C. Galleguillos, B. McFee, S. Belongie, and G. Lanckriet, **Multi-class object localization by combining local contextual interactions**, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2010.

B. McFee and G. Lanckriet, **Heterogeneous embedding for subjective artist similarity**, *Tenth International Society for Music Information Retrieval (ISMIR) Conference*, 2009.

B. McFee and G. Lanckriet, **Partial order embedding with multiple kernels**, *26th International Conference on Machine Learning*, 2009.

### *Demos, workshops, and other work*

- B. McFee, T. Bertin-Mahieux, D.P.W. Ellis, and G. Lanckriet, **The Million Song Dataset challenge**, *Fourth International Workshop on Advances in Music Information Research (AdMIRe)*, 2012.
- B. McFee and G. Lanckriet, **Audio music similarity via metric learning**, *Seventh Music Information Retrieval Evaluation eXchange (MIREX)*, 2011.
- B. McFee and G. Lanckriet, **Integrating multi-modal data by metric learning**, *11th ACM SIGMM International Conference on Multimedia Information Retrieval*, 2010.
- B. McFee, **Distance metric learning from pairwise proximities**, *UCSD CSE Research exam*, 2008.
- E. Ettinger, B. McFee, S. Shivappa, and Y. Freund, **Automatic Cameraman**, *Neural Information Processing Systems Demo Session*, 2007.
- E. Ettinger, B. McFee, and Y. Freund, **Pinpoint: identifying packet loss culprits using adaptive sampling**, *UCSD Technical Report*, 2007.

### Professional activities

- Co-organizer of the Million Song Dataset Challenge, with T. Bertin-Mahieux, D.P.W. Ellis, and G. Lanckriet, 2012.
- Program committee member, *International Conference on Machine Learning*, 2012.
- Reviewer, *Neural Information Processing Systems (NIPS)*, 2011.
- Program committee co-chair, *Second Workshop on Music Recommendation and Discovery (WOMRAD)*, with A. Anglade, O. Celma, B. Fields and P. Lamere, 2011.
- Reviewer, *IEEE Transactions on Audio, Speech and Language Processing*, 2010–2011.
- Program committee member, *International Society for Music Information Retrieval (ISMIR) Conference*, 2009–2011.
- Program committee member, *International Joint Conference on Artificial Intelligence*, 2011.
- Reviewer, *Journal of Machine Learning Research*, 2011.
- Co-organizer of the Understanding Multiple Kernel Learning Methods Workshop, with F. Bach, G. Lanckriet, and N. Srebro, NIPS 2009.
- Manager of the UC San Diego Multiple Kernel Learning Repository, <http://mk1.ucsd.edu>, 2009–present.

## Teaching experience

*Lab tutor*, CMPE 12C, Computer organization, UCSC, 2002.

*Teaching assistant*, CSE 3, Fluency in information technology, UCSD, 2005.

*Teaching assistant*, CSE 20, Discrete mathematics, UCSD, 2008.

*Teaching assistant*, CSE 21, Mathematics for algorithms and systems, UCSD, 2009.

*Teaching assistant*, CSE 100, Advanced data structures, UCSD, 2008.

*Teaching assistant*, CSE 101, Design and analysis of algorithms, UCSD, 2007.

*Teaching assistant*, CSE 105, Theory of computation, UCSD, 2006.

*Teaching assistant*, CSE 151, Introduction to artificial intelligence, UCSD, 2006.

*Teaching assistant*, ECE 30, Introduction to computer engineering, UCSD, 2010.

*Teaching assistant mentor*, Computer Science & Engineering, UCSD, 2010–2012.