Timothy O'Brien

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Education

Stanford University   **Stanford, California**

Ph.D., Computer-Based Music Theory and Acoustics   *September 2014–June 2019 (expected)*

Recently admitted as one of two incoming Ph.D. students at the *Center for Computer Research in Music and Acoustics.*

M.A., Music, Science and Technology   *September 2012–June 2014 (expected)*

Two-year Masters program at the *Center for Computer Research in Music and Acoustics.*

- Studies include digital signal processing, computer music composition, and human-computer interaction design
- Research projects include complex system simulation for computer improvisation and real-time generative algorithmic composition
- Current GPA: 4.133/4.3
- GRE (*September 2011*): 170 Verbal (99th percentile), 168 Quantitative (96th percentile), 4.5 Analytical Writing (72nd percentile)

University of Virginia   **Charlottesville, Virginia**

B.S., Physics   *August 2002–May 2006*

Distinguished major in physics, concentration in computational physics, and minor in anthropology.

- Studies included C/C++ programming for analysis and simulation of physical systems.
- Senior thesis examining the dynamics of shear transformation zones in amorphous solids via numerical simulation.
- Dean's List: Spring 2003, Fall 2003, Spring 2004, Spring 2005.

Work Experience

Sennheiser Research   **San Francisco, California**

Intern–Audio DSP Engineering   *Jun. 2013–Sep. 2013*

- Developed object-oriented AutoMixer in Matlab, optimizing efficiency, agility, and ease of use
- Researched DSP concepts, mainly compressed sensing; work included numerous Matlab experiments and simulations
- Contributed to proprietary Matlab codebase, adhering to coding standards and guidelines

J.P. Morgan Chase   **New York, New York**

Equity Research Assistant   *Nov. 2006–Aug. 2012*

- Partnered with department management to analyze expenses and make recommendations for expense savings; led training on new automated and web-based systems to achieve significant cost savings during the financial crisis
- Coordinated with corporate investment bank clients, institutional investors, and national J.P. Morgan offices to organize industry conferences and corporate access events
- Updated, published, and distributed weekly valuation comparison databases for several sectors
- Identified and gathered key metrics for research publications and to fulfill client requests
- Member of several top *Institutional Investor*-ranked research teams; reported to three Executive Directors, one Vice President, and three Associates.

Technology Consultant   *Sep. 2006–Nov. 2006*

- Facilitated the consolidation of all J.P. Morgan Equity Research Analysts' contact lists into a global database system using Microsoft Access and Excel and utilizing knowledge of SQL and Visual Basic
- Liaised with analysts and database architects to ensure a smooth rollout of the contact management product

Musical Experience

Bandleader   **New York, New York**

suiGeneris, Limehead   *Summers 2003–2005, 2006–2012*

Composed, performed, and recorded original musical works as leader of a progressive, alternative metal group at numerous venues throughout New York City. U.S. finalist in the international Emergenza battle of the bands competition. Produced numerous studio recordings of original material. Selected performance venues: Webster Hall, The Bitter End, Fat Baby, Don Hill's, CBGB.

Skills

Programming: Matlab, C, C++, Python, Processing   **Applications**: Audacity, Ardour, GIMP, etc.

DSP: SuperCollider, PureData, ChucK, JACK   **Web Technologies**: HTML, CSS, Jekyll, Joomla

Systems: Linux, Bash, Vim, Git, Shell Scripting