

# Charles Roberts

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## Education

**10.09 - Present PhD in Media Arts and Technology - University of California at Santa Barbara**  
Studies in electronic music, audio programming and human computer interaction. Expected completion in December 2013.

**9.06 - 10.09 MA in Media Arts and Technology - University of California at Santa Barbara**

**9.04 - 12.05 MA in Instructional Technologies - Teachers College, Columbia University**  
Studies in communication, cognition, sociology and the use of technology in education.

**9.93 - 12.97 Bachelor of Music - James Madison University**

Emphasis in audio production and jazz performance. Minors in both Business and Mass Communications.

## Professional Experience

**9.08 - Present Owner/Developer - One More Muse**

Small business developing musical iPhone applications. Over 35,000 copies of my initial application, Visual Metronome, have been sold since the company's inception.

**3.11 - 6.11 - Instructor - UCSB - Mobile Devices and Artistic Practice**

Proposed, developed and taught course on the musical and artistic applications of mobile devices. Particular emphasis was placed on programming for iOS devices, but other operating systems were also explored. Four students submitted apps to the Apple App Store that were selected as "New & Noteworthy" by Apple.

**1.09 - 3.09 - Instructor - UCSB - Technology and Performance**

I developed the curriculum and taught an undergraduate course in the College of Creative Studies on the use of technology in live audio-visual performance.

**6.08 - 8.08 - Instructor - UCSB - Computer Programming**

Taught undergraduate computer science course on Java programming. Augmented existing command line based class with an emphasis on graphics, animation and creating applications with GUIs.

**6.07 - 3.08 - UI Developer / Designer - The Center for BioImage Informatics at UCSB**

Created user interfaces improving access to a biological image database consisting of thousands of tagged images and annotations.

**1.06 - Instructor - Columbia University**

Proposed, developed and taught curriculum for a graduate course on the use of real-time communication technologies in education. Emphasis on the use of the Flash Media Server and discussion of the pros and cons of using social software in a classroom setting.

**9.04 - 4.05 Videographer / Webmaster - ACCESS Center at Columbia University**

Directed and edited videos of educational professionals describing the methodologies they would use when presented with various "Critical Events" in the classroom. Researched and implemented subtitling procedures for Chinese translators. Developed ACCESS website based on provided design.

**3.00 - 8.04 Course Director / Director of Streaming Media - Expression College for Digital Arts**  
Received outstanding student evaluations while directing courses on topics including sound design, interactivity, programming, streaming media and motion graphics. Produced internet broadcasts for both recording artists and corporate clients including Apple Computer. Developed and implemented online professional development system for faculty of school. Active member of educational management team.

**10.99 - 3.00 Audio & Lighting Engineer - Carnival Cruise Lines**

Managed audio and lighting needs for the entertainment department of a 1,500 passenger cruise ship. Designed and programmed lighting routines and special effects for musical revue shows. Installed and maintained sound reinforcement equipment. Mixed audio for bands, revue shows and variety acts.

**3.98 - 10.99 Graphic Design Associate - Adecco Group**

Created print advertisements and catalog layouts for various companies in the San Francisco Bay Area.

**6.96 - 12.97 Multimedia Trainer - Center for Instructional Technologies, JMU**

Trained faculty to use PowerPoint and create web pages for their classes while a student at James Madison University.

**9.94 - 5.96 Audio Engineer - James Madison University**

Performed live audio reinforcement for the University jazz program and show choir.

## Publications

Roberts, C., Wakefield, G., Wright, M. **The Web Browser as Synthesizer and Interface**. In Proceedings of the New Interfaces for Musical Expression conference (NIME). Korea Republic. 2013. **BEST PAPER AWARD**.

Roberts, C., Forbes, A., Höllerer, T. **Enabling Multimodal Mobile Interfaces for Musical Performance**. In Proceedings of the New Interfaces for Musical Expression conference (NIME). Korea Republic. 2013.

Roberts, C., Kuchera-Morin, J. **Gibber: Live Coding Audio In The Browser**. In Proceedings of the International Computer Music Conference (ICMC). Ljubljana, Slovenia. 2012.

Roberts, C., Wakefield, G., Wright, M. **Mobile Controls On-The-Fly: An Abstraction for Distributed NIMEs**. In Proceedings of New Interfaces for Musical Expression (NIME). Ann Harbor, Michigan. 2012

Roberts, C., Alper, B., Kuchera-Morin, J., and Höllerer, T. **Augmented Textual Data Viewing in 3D Visualizations Using Tablets**. Proceedings of the 2012 Symposium on 3D User Interfaces (3DUI 2012), IEEE Virtual Reality Conference.

Roberts, C., Höllerer, T. **Composition For Conductor And Audience**. Proceedings of the User Interface Software And Technology Conference (UIST). Santa Barbara, CA. 2011

Roberts, C. **Control: Software for End-User Interface Programming and Interactive Performance**. Proceedings of the International Computer Music Conference (ICMC), 2011.

Roberts, C., Wright, M., Kuchera-Morin, J., Putnam, L. and Wakefield G. **Dynamic Interactivity Inside the AlloSphere**. Proceedings of New Instruments for Musical Expression\_(NIME), 2010.

Wakefield, G., Smith, W. and Roberts, C. **LuaAV: Extensibility and Heterogeneity for Audiovisual Computing**. Proceedings of the Linux Audio Conference (LAC), 2010.

Roberts, C. **Towards a Dynamic Framework for Interactivity** MA Thesis, University of California Santa Barbara, 2009.

J. Kuchera-Morin, T. Höllerer, B. Bell, S. Mangiat, L. Putnam, and C. Roberts. **Towards a General-purpose Infrastructure for Novel Collaborative Multimodal Human-Computer Interfaces**. Proc. Workshop on Media Arts, Science, and Technology (MAST), The Future of Interactive Media, Jan. 29–30, 2009, Santa Barbara, CA

## Teaching Assistantships

### Spring 2008 - Art 7D Art, Science and Technology w/ Lisa Jevbratt

Art 7D examines contemporary art practices including network, algorithmic and interactive art. I lead lab sections teaching various digital art techniques and assisting artists in the creation of multiple digital / analog hybrid artworks.

### Winter 2008 - MAT240E Synthesis Control and Streaming w/ Stephen Travis Pope

In this course students look at programming techniques for manipulating .control signals commonly used in digital audio work. Specific protocols include MIDI, HID, and OSC. Network streaming of audio is also examined.

### Winter 2008 / Winter 2007 - MAT259 Information Visualization w/ George Legrady

This class looks at the aesthetics of data visualization. My role in the course was to provide technical lectures and assistance on topics including Java programming using the Processing IDE, PHP and MySQL.

### Spring 2007 / Fall 2007 - Engineering 3 w/ Ilan Ben-Yaacov

An introduction to programming in C and MATLAB. As TA I led labs of 20 students in code exercises and provided technical assistance.

### Fall 2006 - Art 1A w/ Helen Tascian

This class looks at critical theory as a means of coming to a better appreciation of art. My role as a TA was to lead multiple sections of 20+ students each week in discussions about assigned readings. I also assisted students in writing their midterm and final papers, which I was in charge of grading.

## Research Assistantships

### 4.20008 - Present - AlloSphere Research Group, UCSB

Research focusing around human computer interaction in the AlloSphere, a three story spherical performance instrument located in the California Nano Systems Institute. I created and continue to maintain the interactive infrastructure of the AlloSphere.

## Fellowships

### 9.2011 - Present - Robert W. Deutsch Fellow

Fellowship awarded to investigate human computer interaction and data visualization in immersive virtual environments. <http://rwdfoundation.org/>

## Selected Speeches & Workshops

### 2013 - NIME Conference 2013, Daejeon + Seoul, Korea

Led thirty person workshop titled on developing electronic musical interfaces using web technologies.

### 2013 - Sogang University, Seoul, Korea

Invited guest lecture on live coding for a graduate digital arts course.

### 2011,2012,2013 - CS185 Human Computer Interaction, UCSB

Guest lectures on user interface principles and techniques for iOS devices.

**2009 - CS189 Capstone Project, UCSB**

Guest lecture on the basics of iOS development class for the undergraduate CS capstone course.

**2009 - MAT 595M Seminar Series, UCSB**

Seminar presentation on my research with the iOS platform. <http://www.mat.ucsb.edu/595M/?p=342>

**2004 - STRETCH Design Conference, Chicago / Washington D.C.**

Led workshops on JavaScript for multiple groups of 10 - 20 people

**2001 - Seybold Design Conference, San Francisco**

Moderated panel discussion on streaming media for the largest design conference on the west coast

**Programming  
Languages**

Very Strong: Objective-C, JavaScript, C, HTML, CSS

Conversant: Lua, MATLAB, C++, Java