

## Tom Lieber

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CONTACT *E-mail:* tom@alltom.com  
INFORMATION *WWW:* http://alltom.com/

EDUCATION **Princeton University**, Princeton, NJ USA, Class of 2009  
Graduate with Honors, Bachelor in Science and Engineering, Computer Science  
**Kyushu University**, Fukuokua, Kyushu, Japan, 1-semester study abroad

RELEVANT COURSES

- Transforming Reality by Computer (digital signal processing)
- Computer and Electronic Music Composition
- Computer Music: Compositional Applications
- Artificial Intelligence
- Computer Graphics
- Human-Computer Interface Technology
- Operating Systems
- Reasoning About Computation (Turing machines and probabilistic algorithms)
- Advanced Programming Techniques
- Programming Languages (type safety, language proofs)

PROGRAMMING LANGUAGES Use Frequently: ChucK, Ruby, C, OCaml, Objective-C, HTML/CSS  
Have Used: Python, C++, Java, C#, PHP4

RESEARCH/PROJECTS

**“LucK: ChucK in OCaml”**, advised by Perry Cook  
*Independent Research Project at Princeton University* **Spring 2009**

- Wrote parser, compiler, and interpreter for the programming language ChucK in OCaml
- Supports cooperative multi-threading, basic control flow statements, automatic type-casting, nested scopes

**“Kindness” – a piece for laptop orchestra**  
*Princeton Laptop Orchestra (PLOrk)* **Spring 2009**

- Designed and implemented a software instrument with Processing and ChucK
- Led rehearsals of Princeton’s laptop orchestra of about 25 students for a semester
- Directed the piece at HASTAC/MacArthur Foundation Digital Media & Learning Showcase in Chicago, and in Richardson Auditorium at Princeton University

**“Multi-Track Editing with TapeSTrea”**, advised by Perry Cook  
*Presented at the International Computer Music Conference* **Summer 2008**

- Added several voice-oriented tools to TapeSTrea, a sound analysis and synthesis software package in C++ with an OpenGL UI
- Collaborated with graduate student to add vibrato to selected frequency domain regions, select audio fragments by harmonicity, and other frequency- and time-based operations

### **“RucK” – ChucK on the Ruby VM**

**Summer 2008**

- Implemented ChucK’s cooperative multi-threading using Ruby’s continuations (call/cc)
- Ported a few of ChucK’s basic unit generators and created a WAV library for I/O
- Took advantage of Ruby features like blocks to add enhancements like simpler syntax for sample-level unit generator parameter adjustments

### PROFESSIONAL **Studio Assistant**

EXPERIENCE *Princeton University, Princeton, NJ*

**Summer 2009**

- Set up equipment and recorded performances in Taplin Auditorium
- Recorded to hard disk recorder, CD recorder, and Pro Tools

### **Teaching Assistant and Residential Advisor**

*Massachusetts Institute of Technology, Cambridge, MA*

**Summer 2008, 2009**

- Served as TA for ‘Minority Introduction to Engineering & Science’ summer program
- In 2008, taught students with no programming experience PHP, HTML, and MySQL, guiding them to create a complete social networking web site like Facebook
- In 2009, taught students to create iPhone applications with the iPhone SDK 3.0, leading a team to create a mapping application for MIT’s campus
- Tutored students privately, held office hours, and served as a residential advisor

### **Ruby on Rails Programmer**

*EdgeCase, LLC, Columbus, OH*

**Summer 2007, 2008**

- Programmed back- and front-end of several Ruby on Rails projects
- Collaborated with a small team of agile developers
- Designed MySQL databases and maintained them with Rails migrations
- Tracked source code with Subversion, Mercurial, and git
- Practiced behavior- and test-driven development

### **C#/ASP.NET Programmer**

*Tarigma Corporation, Columbus, OH*

**Summer 2004, 2005, 2006**

- Designed and implemented ASP.NET web interfaces for monitoring remote appliances
- Programmed a multi-threaded Windows Forms application in C# for managing networked devices
- Implemented network protocols (e.g. SNMP) to spec
- Designed a network protocol for communicating with devices with company firmware