# Tamara Blain

2605 Haste St. #202, Berkeley, CA 94704 • (510) 704-8970 • tamarablain@gmail.com

## Education

**UC Berkeley - Masters, Electrical Engineering - December 2009**

- A BCI-Controlled Virtual Keyboard Design for Noisy Input and Limited Bandwidth
  - Designed and simulated a method of communicating over a brain-computer-interface (BCI) constrained by noise and bandwidth; Master's report.
- Fast MAPs BCI-controlled Smart Wheelchair Interface
  - Extended an approach to shared, BCI-control of a robotic wheelchair, centered around the SLAM algorithm and a maps-based interface; class project.
- EEG-based Brain Computer Interface (BCI) Controlled Communication Devices
  - Assembled and integrated requisite components of an EEG-based brain computer interface to control a virtual keyboard; research project.
- A Components-Off-The-Shelf Single Op-Amp Gyrator Implementation of Chua's Circuit
  - Constructed an electronic circuit exhibiting classic chaotic behavior using off-the-shelf components, and demonstrated the use of a sound card to sample chaotic waveforms; research project (in process of submission).
- Catching Phish: Detecting Phishing Attacks from Rendered Website Images
  - Developed a method of thwarting phishing attacks using machine learning techniques on rendered images of websites; class project.
- Extra-Cortical Self-Repositioning MEMs-Based ECoG
  - Proposed a system for recording electrical activity from the surface of the cerebral cortex using a wireless electrode array with RF power scavenging ability and a self-repositioning mechanism; class project.

**Queens College, CUNY - Bachelor of Science, Computer Science - May 2003**

- Laboratory Options for the Computer Science Major
  - Designed and implemented lab modules to expose Computer Science undergraduates to the latest trends in digital circuit design and computer architecture.
  - In proceedings of the 2003 Workshop on Computer Architecture Education, held in conjunction with the 30th International Symposium on Computer Architecture.
- Esterel Virtual Machine for LEGO Mindstorms
  - Wrote an emulator to allow Esterel language routines to run on LEGO Mindstorms robots; class project.

**SUNY at StonyBrook - Bachelor of Science, Biochemistry - May 1995**

## Experience

**Lawrence Berkeley National Labs, Research Assistant, 7/2003 – 12/2006**

- Assisted the group which developed the front-end system of the Spallation Neutron Source (SNS), which provides pulse neutron beams used to determine the atomic make-up of materials.
- Developed modules which enabled additional functionality to the FPGA controller of the RF-based acceleration system, and allowed greater flexibility and control to SNS users.

**Concrete Media Inc., Web Developer, 6/1999 – 9/2002**

- Enabled the web presence of such large companies as, Bertelsmann AG, The Princeton Review, and ScreamingMedia.
- Developed large-scale portal sites such as GirlsOn.com, Lids.com, Bolt.com, and Homeroom.com.
- Ensured unerring code performance with all browser engines.
- Created a centralized system, which improved site development efficiency and enhanced developer collaboration.
- Stimulated the interest of new clients by producing presentations of cutting edge client-side technologies, to be delivered by the marketing team.
- Was responsible for ensuring the quality, capabilities, and culture-fitness of prospective developers.

**Sensenet, Inc., Intern, 11/1998 - 6/1999**

- Helped actualize the web footprint of such large companies as Pfizer and Sprint.
- Designed and implemented rigorous usability tests for significant clients such as Metamucil, Showtime, and Captain Morgan.
- Resolved, tracked, and documented technical issues with client sites in a timely fashion.

### Programming Experience

*High Level Languages:*
- Python *
- C
- C++ *
- Objective C *
- Java
- Matlab *
- Verilog *
- VHDL

*Assembly Languages:*
- X86
- ARM

*Client Side Web Languages:*
- HTML
- JavaScript
- ActionScript

*Server Side Web Languages:*
- SQL
- ASP

### Systems Proficiency

- Windows *
- Mac OSX *

*Linux Variants:*
- Ubuntu *
- Red Hat *
- Mandrake
- Knoppix
- Gnoppix

### Version Control Software Proficiency

- Git *
- SVN
- CVS

** Indicates current strengths*

## Honors

U.C. Berkeley Fellowship recipient
Renate Chasman Scholarship recipient
Dean's List, Queens College
AMP Research Scholar
Dean's List, Lehman College

## Organizations

IEEE, member
ACM, member

## Interests

Brain computer interfaces
Neuro-prosthetics
Machine learning
Cell phone programming
Chaos theory
Robotics
Embedded systems
Digital design
Computer architecture
Astronomy
Entomology