BENJAMIN E. SHANAHAN

69 Brown Street, Providence, RI 02912, Box 6461

EDUCATION

Boston Latin School, Class of 2013	Boston, MA
Junior at Brown University, Class of 2017, majoring in Neuroscience	Providence, RI

VOLUNTEER EXPERIENCE

Jun. 2013 – Aug. 2013 — **Research Assistant at Massachusetts General Hospital** — Boston, MA

Volunteer research assistant (non-employee) in Cashlab at MGH

- Developed Semiology Diagnostic Tool to predict seizure localization in patients.
- Developed cost-effective operant conditioning chamber with motion tracking using Arduino electronics platform.
- Sat-in on brain surgeries and observed BrainGate testing among patients.

WORK EXPERIENCE

Jul. 2012 – Aug. 2012 — **State Street Tech Apprentice Internship** — Quincy, MA

Summer Intern in the Flexible Work Department at State Street

- Documented, troubleshot, maintained & analyzed data from department website (FlexTrax).
- Designed and programmed a time-saving macro for pulling reports in Visual Basic (VBA).
- Helped solve user issues, fix site bugs & errors, and redesign the FlexTrax website.

Summer 2013, 2014 — **Research Assistant at Massachusetts General Hospital** — Boston, MA

Paid research assistant in Cashlab at MGH

- Continued work on development of Semiology Diagnostic Tool.
- Developed MATLAB code to detect High-frequency Oscillations (HFOs) in patient epilepsy data.
- Sat-in on brain surgeries and observed electrode implants.

Oct. 2014 – Present — **Research Assistant in Burwell Lab at Brown University** — Providence, RI

MATLAB consultant and Research Assistant in learning and memory focused laboratory

- Assist colleagues in writing MATLAB code to carry out necessary analyses and data processing.
- Attend weekly lab meetings which double as relevant scientific literature review sessions.

Jun. 2015 – Present — **Research Assistant in Omar Lab under Siravo UTRA Grant at Brown University** — Providence, RI

Assisted with asymmetry research and development of MATLAB toolbox for applications in epilepsy and brain rhythms

- Analysis of asymmetry in brain rhythms of running rats in order to develop deeper understanding of the composition of these rhythms and their usefulness as an analytical metric.
- Develop MATLAB toolbox for making asymmetry quantification easier
- Shadow epileptologists at Rhode Island hospital

ACTIVITIES

- IEEE (MicroMouse robotics competition at Brown University) (Sep. 2013 – Apr. 2014)
- Disc-Jockey intern and Production intern at 95.5 WBRU (Jan. 2014 – Dec. 2015)
- Development of CNC Router for Brown University's Prince Lab with peers; funded by grants from the university (Nov. 2014 – Present)
- Cofounder of Artbeat, a new student group focused on fostering Brown's artistic community; Artbeat runs biweekly art workshops and events emphasizing art and artistic expression (more info at anartbeataway.org) (Jan. 2015 – Present)

SKILLS

- **Programming**: Advanced knowledge of web design (both PHP/Apache and Python 3). Advanced knowledge of MATLAB. Advanced knowledge of ActionScript 3.0. Advanced knowledge of Python 3. Proficient in Java and Visual Basic. Strong knowledge of web design, maintenance, domain management, server-hosting. Advanced knowledge of Object-Oriented Programming (OOP) techniques.
- **Computers:** Advanced knowledge of Adobe Software Suite (Photoshop, Illustrator, Flash Professional). Advanced knowledge of building, configuring, troubleshooting computers (Windows and Linux). Advanced knowledge of Excel, including Macro design.
- **Hobbies**: Music composition and synthesis (via computer and piano). 3D graphics generation and graphic design. Video editing and compositing knowledge (Adobe software). Proficient in design / construction of circuits and physical computing (especially work involving Arduino-based projects; Arduino is an open-source physical electronics platform with built-in microprocessor).
- **Language**: Advanced in French (2 years + semester abroad in Paris); familiar with Spanish (4 years); study of Latin (4 years)
- **Personal**: Highly organized, motivated, responsible, and resourceful. Team leader and collaborator. Perseverant and committed to projects. Creative and efficient problem solver. Not afraid to ask for help when necessary. Able to self-teach new concepts quickly and effectively.

HONORS & AWARDS

- National Honor Society (2012)
- Francis Gardner Prize for Excellence in Modern Studies (2010 – 2012)
- National Latin Exam, *Summa Cum Laude* (2011)
- Campbell Medal (2013), T. Vincent Learson Scholarship (2013), Horace M. Chadsley '14 Scholarship (2013)
- Matthew Siravo Undergraduate Award in Epilepsy (2015)

ABSTRACTS

- Human Single Neuron Correlates Of High Frequency Oscillations During Seizures. Omar J. Ahmed, Mark A. Kramer, Jason S. Naftulin, **Benjamin Shanahan**, Emad N. Eskandar, Rees Cosgrove, N. Stevenson Potter, Andrew Blum, Leigh Hochberg, Sydney S. Cash. Presented at Annual Meeting of American Epilepsy Society, Washington D.C., December 2014.