BENJAMIN E. SHANAHAN

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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 in Cashlab at MGH	

- Developed Semiology Diagnostic Tool to predict seizure localization in patients.
- Developed and built cost-effective operant conditioning chamber with motion tracking.

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 FlexTrax internal 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.

Oct. 2014 – Present	**Research Assistant in Burwell Lab at Brown University**	Providence, RI
	MATLAB consultant and Research Assistant in learning and memory focused laboratory	

- Write requested MATLAB code for assorted analyses and data processing.
- Attend weekly lab meetings / journal article review.

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	

- Analyzed asymmetry in brain rhythms of running rats to develop deeper understanding of the composition of these rhythms and their usefulness as an analytical metric. Began work on figures and logic for journal article.
- Developed MATLAB toolbox to simplify usage of rhythm asymmetry as a metric.
- Shadowed epileptologist 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 www.anartbeataway.org) (Jan. 2015 – Present)

SKILLS

- **Programming**: Advanced knowledge of MATLAB. Advanced knowledge of ActionScript 3.0. Advanced knowledge of Python. Proficient in Java and Visual Basic. Advanced knowledge of web design, maintenance, domain management, server-hosting (both Apache- and Python-based). Advanced knowledge of Object-Oriented Programming (OOP) techniques.
- **Computers:** Advanced knowledge of Adobe Software Suite (Photoshop, Illustrator, Flash Professional, etc.). 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 and construction of circuits and physical computing (especially work involving Arduino and Teensy projects: both of which are open-source physical electronics platforms with a built-in microprocessor).
- **Language**: Advanced in French (2 years plus semester abroad in Paris); comprehension of 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.