UI-UX Designer / Software Engineer

Hiring Organization: School of Engineering, Brown University, Providence, RI

The BrainGate Neural Interface System research team is seeking an enthusiastic, highly skilled and innovative UI Software Engineer / Designer with Design and UX skills to contribute to a fast-paced engineering project that will define the future of brain-implantable neural interface technology to improve communication and independence for people with severe motor disabilities. Aesthetic GUI design confidence, demonstrable GUI programming skill using modern web (and other) technologies, and ability to work with UX stakeholders for UI specification and prototyping are required. Training in the graphical / aesthetic domain should be complemented by a strong professional coding portfolio, or vice-versa. This is a regular full-time, benefited position funded for 2 years. All work will be performed on site embedded with our team in the School of Engineering at Brown University.

Relevant activities include, but are not limited to the following:

- Execute an iterative, user-centered UI/UX design-and-build process to design and create polished, intuitive and highly functional User Interfaces for a complex brain-computer interface (BCI) system
- Create sketches, interaction flows, wireframes, interactive prototypes and test protocols and effectively communicate design processes and solutions to clients and team members
- Implement, integrate and test GUIs using state-of-the-art software technologies and processes
- Program final deployable GUIs for iOS, Web, Windows, and Android targets
- Participate in development of the system information architecture, database, and data structures to collect, store and move status / control information throughout the networked BCI.
- Define APIs and program down the stack in coordination with other engineers
- Work with the back-end software developer to program real-time, low-latency data-driven web applications including streaming graphic displays using highly efficient browser-based real-time graphing methodologies
- Create and execute robust verification tests and ensure reliability of programming products
- Work closely with team engineers, clinicians and neuroscientists to help architect overall system integration approaches, device communication protocols and UI/UX solutions that provide GUI-based visibility and control of the entire multi-device real-time system
- Perform user interviews and field validation testing to develop and ensure system usability
- Write exceptional, highly consistent, well-documented, supportable modular code
- Work individually and as a critical member of a high-performance cross-functional team to assess and solve implementation challenges on the cutting edge of technology

Qualifications

Education and Experience

Bachelor's degree required. Master's degree preferred, with at least 3 years of employment in Software Programming / Engineering *and* experience with User Interface / Graphic Design, Web Design, or similar area of visual design.

Required Competencies:
- Fluent ability to design and implement polished GUIs across a variety of platforms including iOS, web and Windows
- Proficiency with industry-standard & new creative tools/technologies for UI/UX & web design
- Competency with GUI prototype and mock-up tools
- Expert knowledge and proficiency with several web programming technologies including Node.js, React, Angular, JavaScript, JS libraries, HTML5, CSS, JSON and similar.
- Real-time browser-based graphing techniques for low-latency, high-rate drawing & updating
- Expert proficiency with responsive design for web applications
- Competency programming interactions with web server and/or database back-end (SQL variants, Flask, MongoDB) and defining new APIs for other interactions
- Proficiency with source control (Git) and collaborative development tools
- Skill in creating test suites and performing code verification and validation
- Passionate understanding of UI/UX best practices and emerging trends
- Outstanding communication and presentation skills

Preferred Competencies:
- Proficiency in Python, high performance UI libraries
- Coding fluency with *nix, Android and MacOS targets
- Creating GUIs that enable both interactive and programmatic (scripted) execution
- Designing Web UIs for accessibility
- Developing UI for health care or medical device applications
- Enabling remote access/support solutions
- Ability to lead rapid, iterative UI/UX development in small, effective agile teams
- Programming experience with high-performance UDP, ZQM or TCP/IP communication
- Demonstrated interest in neuroscience, brain-computer interfaces and/or assistive technologies for people with disability
- Familiarity with neuroscience and electrical brain signals
- Working knowledge of Matlab
- Programming in one or more game engine environments such as Unity, JS, Phaser, Lua3D, Matter.js
- Experience with embedded ARM devices running Linux OS

Working with the BrainGate Team:

We are an internationally recognized, multidisciplinary team of engineers, computer scientists, neuroscientists and clinicians leading innovation in the field of assistive brain-computer interfaces. Our research has shown that a brain-computer interface implanted in motor cortex can enable individuals with paralysis or locked-in syndrome to reliably control a computer cursor using their imagined hand movements. We are expanding our team to help create the world's first fully mobile, wireless BCI that will be useable at home without technical oversight. As the team's UI/UX Software Engineer, you will have a unique opportunity to apply your experience to this exciting and important project to create the future of this medical technology. Visit us at BrainGate.org.

Benefits:

You will be a full-time employee of Brown University with standard benefits including medical, dental and vision plans, all in an exceptional academic work environment. Details are available at:
http://www.brown.edu/about/administration/human-resources/

To Apply:

Please use this link to directly view and apply for the position on Brown's Career Site.