



## **Job Title:** Senior Software Engineer (Backend) for Quantitative Digitography (QDG) Health

### **About:**

Quantitative Digitography (QDG) is a unique, remote monitoring system specifically designed to provide healthcare providers (HCPs) with quantitative, validated measures of all motor symptoms of Parkinson's disease. Derived from Stanford University, led by worldwide expert in movement disorders - Dr. Helen Bronte-Stewart, and backed by decades of published research, QDG represents a pioneering advancement in Parkinson's disease management. This end-to-end solution empowers HCPs to deliver personalized, data-driven care, revolutionizing the landscape of Parkinson's treatment and ultimately improving patient outcomes.

Utilizing an innovative, custom engineered digitography device, QDG captures alternating finger tapping data, which is then analyzed securely in the HIPAA-compliant cloud-based server. Real-time metrics are made readily available to the HCP within the electronic medical record (EMR). QDG's seamless integration enables rapid access to a patient's motor status at any given point in time, allowing HCPs to make informed decisions promptly. Through its point-of-care monitoring capabilities, QDG significantly enhances patient care by increasing accessibility, improving treatment compliance, and ultimately reducing the need for costly inpatient stays.

### **Job Summary:**

QDG seeks a Senior Software Engineer (Backend) who will be a key member of our engineering team, responsible for designing, developing, and maintaining the backend systems that power our cutting-edge applications. You will work closely with cross-functional teams to translate business requirements into scalable, reliable, and high-performance software solutions. This role offers an exciting opportunity to work on challenging projects, contribute to architectural decisions, and improve upon the QDG backend system.

### **Responsibilities:**

- Design, develop, and maintain scalable backend systems and APIs to support our suite of applications.
- Design and develop the Web service that interfaces with a mobile application, algorithm microservice, web UI, and electronic medical record, as well as the Web application UI.



- Understand the needs of system users, including healthcare providers, patients, researchers, and product support personnel.
- Collaborate with the Engineering Project Manager, the hardware design team, and frontend and mobile application engineers to understand requirements and translate them into technical specifications.
- Architect and implement solutions that are robust, secure, and highly available.
- Optimize application performance and scalability through code refactoring, caching strategies, and database optimizations.
- Write clean, maintainable, and well-documented code following best practices and coding standards.
- Conduct code reviews to ensure code quality, maintainability, and adherence to coding standards. Optimize quality of code by writing unit tests.
- Troubleshoot and debug issues, conduct root cause analysis, and implement effective solutions.
- Stay up-to-date with the latest technologies, trends, and best practices in backend development.
- Collaborate with the Quality Assurance and Regulatory Affairs consulting firm to ensure compliance with FDA regulatory standards and product specifications.
- Document needs and requirements in accordance with software development regulations and standards as defined in the Quality Management System (QMS).
- Understand requirements set forth by laws, regulations, and policies concerning data privacy and cybersecurity.
- Follow design control and software as a medical device development processes in accordance with 21 CFR 820 and IEC 62304

**Qualifications:**

- Bachelor's degree in Computer Science, Software Engineering, or a related field (Master's degree preferred).
- 5+ years of experience in backend software development, with a strong proficiency in C# and the .NET framework (or similar).
- Proficiency in TypeScript-based front-end frameworks such as Angular highly preferred.
- Solid understanding of data structures, algorithms, and software design principles.
- Experience designing and building scalable, distributed systems and microservices architectures.
- Proficiency in working with relational databases (e.g. Microsoft SQL Server).
- Familiarity with cloud computing platforms (e.g., AWS, Azure, Google Cloud).
- Familiarity with Docker and Kubernetes.
- Strong problem-solving skills and the ability to troubleshoot complex issues.



- Excellent communication and collaboration skills, with the ability to work effectively in a team environment.
- Experience with agile development methodologies is a plus.
- Prior experience in backend development in the healthcare industry is desirable but not required.
- Experience with healthcare data standards such as HL7 FHIR and SMART-on-FHIR, and integration of third-party web applications with electronic health record systems such as Epic is highly desirable, but not required.

**Qualities:**

- Passion for the mission - we're here because we're in pursuit of improving patients' lives. Our ideal candidate shares that passion and is applying because they want to elevate the standard of care for the future of Parkinson's disease.
- Attention to detail and extremely well organized.
- Communication style matches appropriate audiences.
- Willingness to wear multiple project "hats" when needed.

QDG provides equal employment opportunities to all employees and applicants for employment and prohibits discrimination and harassment of any type without regard to race, color, religion, age, sex, national origin, disability status, genetics, protected veteran status, sexual orientation, gender identity or expression, or any other characteristic protected by federal, state or local laws.

This policy applies to all terms and conditions of employment, including recruiting, hiring, placement, promotion, termination, layoff, recall, transfer, leaves of absence, compensation and training.

**To apply**, please submit your resume, along with a cover letter outlining your relevant experience for QDG, to [QDG-health@stanford.edu](mailto:QDG-health@stanford.edu).

We appreciate all applications, but only shortlisted candidates will be contacted for further consideration.