Meg Anderson

Senior Software Engineer based in Milwaukee, Wisconsin

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Education

Johns Hopkins Whiting School of Engineering — *Baltimore, MD*

M.S.E. in Computer Science with a Bioinformatics Focus Area — *Jan. 2021 - Dec. 2024*

- **Selected Coursework:** Biological Databases, Algorithms for Structural Bioinformatics, Cloud Computing, Software Engineering, Algorithms, Object-Oriented Analysis and Design, Linked Data and the Semantic Web

The College of William & Mary — *Williamsburg, VA*

B.S. in Computer Science, Minor in Biology — *Aug. 2016 - May 2020*

Skills

Languages	Java, Python, C++/C#, SQL, TypeScript, HTML, Bash, PowerShell
Frameworks & Tools	Spring Boot, Maven, Flask, Angular, OpenAPI, Jenkins, Docker, Git, REST APIs, AWS serverless architecture
Testing & QA	**Unit:** JUnit, PyTest, Cucumber (BDD). **Contract:** Postman, Newman. **Functional:** Selenium **QA:** HIPPA compliance
DevOps	Jenkins CI/CD pipelines integrated with Git, Coverity, and Sonar; Groovy files
Databases	PostgreSQL, MongoDB, MySQL, Redis, DynamoDB thru AWS
Operating Systems	Linux (Ubuntu, openSUSE), Windows 10/11
Bioinformatics & Lab	BSL-2 lab protocols, PCR, NGS, cell culture, fluorescent imaging, protein labeling, N/S/W blots

Selected Experience

GE HealthCare — *Milwaukee, WI*

Senior Software Engineer — *Apr. 2023 - Present*

- Designed, built, delivered, and maintained software applications & services for GE HealthCare's premium CT products, including our new deep-silicon photon counting CT product (pending 510k clearance)
- Managed our μ-service (microservices) suite and supervise version management for μ-service suite
- Improved smart mA feature based on user feedback, enhancing usability through novel automated exposure control (AEC) algorithm
- Led new platform features, including a new service which enables the integration of cloud-based image reconstruction
- Participated in cross-modality μ-service workstream to share platform improvements across teams
- Identified and remediated insecure dependencies in μ-services using static analysis tools (SonarQube, Coverity); improved overall cybersecurity posture while decreasing tech debt
- Adhered to FDA approval processes, guided junior developers through quality assurance. Participated in audits
- Supported all Agile development ceremonies, including daily stand-ups, sprint planning, and PI planning

GE HealthCare — *Milwaukee, WI*

Software Engineer — *Jan. 2023 - Apr. 2023*

- Developed a Spring Boot microservice generation tool extended from OpenAPI's code generator to streamline service creation
- Automated CI/CD pipelines with Jenkins for building, testing, and deploying generated microservices
- Introduced contract and schema validation using Newman and Portman to ensure reliable API integration testing
- Dockerized legacy services and modernized OpenAPI specifications to align with generation templates

GE HealthCare — *Milwaukee, WI*

Edison Software Engineer — *Jan. 2020 - Jan. 2023*

- The Edison Engineering Development program is a two year rotational program consisting of four rotations. Rotations included:
  - **CT Scanner Desktop Application Team:** Redesigned Java image generation service to use newest DICOM standards, allowing for efficient storage and transmission of images which are 4-5x larger. Evaluated multiple standards and led Technical Design Review (TDR) on new features
  - **CT Firmware Team:** Designed and implemented REST API to replace proprietary communication protocols. Improved service readability and maintainability without sacrificing performance during communication to real-time systems. Modeled several possible solutions to make data-driven decisions during TDR on new features
  - **Maternal and Infant Care Team:** Primary project owner of firmware & software system for cryptographic encoding of security chips. Succeeded in meeting all deliverables on critical path, preventing project slip in $5 million program
  - **CT Scanner Desktop Application and Platform Team, Current Team:** Maintained the μ-service templating and automatic code generation initiatives, raising the code quality and security of all new μ-services. Implemented μ-services containerization and cloud deployment "out-of-the-box" features to ensure μ-services integration with our development and build pipelines

Airin Tech *Chantilly, VA*

Software Development Intern *May 2019 - Dec. 2020*

- Built a website to select, edit, and delete database entries. Tool was database agnostic. Project was built for reuse in several client-specific applications. This involved:
  - Writing tools to automatically characterize the schema of data in both relational and document-oriented data sources
  - Interface design to support the addition of new data sources to support client needs
  - Building a RESTful API to a Flask μ-service to serve data queries to JavaScript SlickGrid front-end
  - Building robust test-suite using Pytest, maintaining documentation using Confluence, and issue-tracking with Jira
- Designed and implemented a novel scheduling algorithm for satellite servicing, replacing the usage of proprietary scheduling software, saving the company an annual licensing expense

William & Mary Biology Department *Williamsburg, VA*

Biology Research Assistant *Dec. 2016 – May 2017*

- Collaborated with Dr. Lizbeth Allison, Chancellor Professor of Biology, through competitive Howard Hughes Institute Freshman Research Grant
- Examined mutant version of Thyroid Hormone Receptor, and trained computer vision algorithms for automatic characterization of fluorescent protein imaging, saving an average of 8 hours of analysis time

Center for Applied Proteomics & Molecular Medicine *Manassas, VA*

Research Intern *Jun. 2015 – Aug. 2016*

- Characterized exosome content of multiple lung cancer cell lines and human clinical samples. Culture human cell lines while supervising and training other interns
- Automated protein mass spectrometry data pre-cleaning using Java, decreasing data analysis time from days to hours
- Supported projects related to personalized drug-selection based on an the protein activiation pathways of an individual's tumors

Projects

Biological Databases Course *Baltimore, MD*

Johns Hopkins University *Aug. 2024 – Dec. 2024*

- Developed a web-based API and SQL-backed tool to link protein versions in the Protein Data Bank (PDB) with the publications that cited them, addressing a traceability gap in bioinformatics literature
- Built a web scraper that queried the CrossRef API and predicted the protein version cited in a given work based on publication date to automatically populate a version-tracking database
- Enabled users to explore citation-to-version links, identify impacted publications following major protein revisions, and notify authors when new protein versions were released

Inclusion & Diversity Committee *Milwaukee, WI*

GE HealthCare *Jan. 2020 - Jan. 2023*

- Conceptualized and implemented the first diversity and inclusion survey and data analysis amongst the Edison Engineer class. Built a data visualization pipeline to automatically generate reports from future surveys. Presented actionable findings to business leadership to increase retention

SIGNA Tone Team *Milwaukee, WI*

GE HealthCare *Jan. 2020 - Jan. 2023*

- Assisted in development of a diagnostic system for MR scanners, allowing the service teams to preemptively predict coil failure. Designed the proof of concept for collecting diagnostic metrics

Edison Engineering A-Course Program *Milwaukee, WI*

GE HealthCare *Jan. 2023 - Present*

- Created the first μ-service introduction class for junior developers to encourage best practices from day one of development. Mentored junior Edison Engineers

Honors & Awards

Personal

2022 **Milwaukee Makerspace Area Champion**, Selected as Area Champion for newly created long-arm quilting area, successfully pitching the largest equipment purchase from general funds in the history of the Makerspace *Milwaukee, WI*

Academic

2020 **Bob & Debbie Noonan Award**, Awarded to a single undergraduate student for contributions to the William & Mary computer science community *Williamsburg, VA*

2020 **Phi Beta Kappa Member**, Nominated and selected for membership by a jury of faculty members at William & Mary; candidates are considered only from the top 10% of a graduating class *Williamsburg, VA*

2020 **Summa Cum Laude Latin Honors**, Awarded highest Latin Honors, requiring an unweighted GPA of 3.8 or above *Williamsburg, VA*