

## Software Engineer

Full stack software engineer with expertise in developing cloud-based web applications and containerized workflows. Skilled in integrating algorithms, optimizing CI/CD pipelines, and implementing secure, scalable architectures to support real-time data analysis. Brings a diverse background in research, data analytics, and cross-functional collaboration to deliver innovative, user-focused solutions.

## Experience

2022 – 2025  
July June

### Full Stack Software Engineer, SLB, Houston, TX

Developed and deployed full-stack software solutions for real-time drilling data analysis, integrating microservices, algorithms, and cloud-based workflows to enhance operational efficiency.

- Launched the first petrophysics workflow on a nascent cloud product platform, collaborating with global teams.
- Devised dynamic selection and processing of 5 workflows using machine learning and Kubernetes.
- Restructured user experience by consolidating user flows, reducing over 20 selections to 1 click from feedback during live field jobs.
- Integrated over 10 new or legacy physics and machine learning algorithms in Python, C++, and Fortran into containerized workflows initiated by RESTful APIs.
- Prototyped 3 data analytics web apps to determine feasibility of new algorithms. Tech Stack: Deployed on Azure with frontend in Streamlit, backend FastAPI.
- Modernized Windows-only dll programs to be used cross-platform on Linux with CMake or Wine, enabling containerization and cloud deployment.
- Overhauled CI/CD pipelines using Azure DevOps to automate building, testing, and deploying continuously to cloud services. Previously manual processes reduced from hours to minutes.
- Performed security hardening of cloud services, implementing regular SAST and DAST vulnerability scanning and remediation.
- Doubled algorithmic forward modeling performance of drilling tool through caching and resource management.
- Automated and set up integration and unit tests, ensuring reliable software answer products.

2017 – 2021  
August August

### Research Coordinator, Houston Methodist Orthopedics & Sports Medicine, Houston, TX

Coordinated and executed clinical research studies focused on patient-centered solutions using advanced imaging, motion capture, and bioengineering technologies.

- Conducted studies utilizing motion capture, 7T ultra-high field MRI, 3D printing, and biorepository.
- Contributed to over 50 podium/poster presentations and 40 publications per year, quadrupling department research output.
- Published research with h-index 12; link to my publications <https://orcid.org/0000-0003-0192-307X>

2016 – 2017  
July August

### Medical Scribe, ScribeAmerica, Houston, TX

Documented patient encounters in electronic medical records to support accurate and efficient clinical workflows.

- Recorded precise documentation for over 30 patients per day, ensuring completeness and accuracy for orthopedic trauma, sports, spine, and cancer cases.

2015 – 2016  
May May

### Research Assistant, Sanford Burnham Prebys Medical Discovery Institute, San Diego, CA

Supported neurodegenerative disease research by conducting laboratory experiments and analyzing data to investigate molecular mechanisms.

- Investigated the effects of myeloperoxidase and Siah ubiquitin ligases on memory and fitness in degenerative diseases such as Alzheimer's or Parkinson's.
- Performed laboratory experiments including mouse handling, genotyping, and behavioral assays, with confocal microscopy and image stacking assisting in a research publication.

2015 – 2015  
January May

### Teaching Assistant, Introduction to Computing, Johns Hopkins Dept of Biophysics, Baltimore, MD

Facilitated undergraduate learning in computing through review sessions and coursework support.

- Prepared weekly review sessions for over 60 students on Python, Unix, and Matlab, reinforcing course material and skill development for computer programming.

## | Education

- 2022 ○ **Master of Computer Information and Technology (MCIT)**, *University of Pennsylvania*, Philadelphia  
Magna Cum Laude
- 2015 ○ **Bachelor of Science (BS) in Neuroscience**, *Johns Hopkins University*, Baltimore, MD  
General Honors

## | Projects

- CrowdiD.space Winner of best use of AI or ML at NASA Johnson Space Center Hackathon. Idea and prototype real-time mobile AR game to track space objects together.
- MeMeasure Finalist for Penn SPARC. Web app to estimate clothing sizes using webcam and ML body segmentation.
- EasyStay- AtLondon Created a full-stack website that suggests London Airbnb locations, utilizing React, Node.js, and MySQL database hosted on AWS.
- PennSearch Collaborative implementation of a peer-to-peer search engine written in C++. Employs chord distributed nodes with homegrown routing protocol in a simulated network.
- Surgeon Burnout Study Conducted study on sleep health and burnout risk of surgeons with wearables and data analysis utilizing Pandas, leading to three research publications.

## | Skills

- Languages Python, Typescript, Javascript, C++, C#, HTML/CSS, SQL, Java
- Web React, Node.js, Angular, FastAPI, Streamlit, Flask, Django, Bootstrap, REST
- Technologies Docker, Figma, VS Code, JetBrains, Snyk, Mend, SonarQube, Postman, Confluence, Jira, Visual Studio, MongoDB, MySQL, Postgres, Kubernetes, Ansible, Grafana, RabbitMQ, Git, Github, Nginx
- Platforms Unix, Azure, AWS, GCP, Linux, Windows, Mac
- Expertise Full Stack Development, Microservices, API Design, Artificial Intelligence, Large Language Models, Database Systems, DevOps, CI/CD, Distributed Systems, Cloud Security, Software Development, Cloud Computing, Web Development, RESTful APIs, Automated Testing, UI/UX Design, Project Management, SDLC, Agile Methodologies, Version Control, Algorithms, Data Structures, Containerization, Orchestration, Monitoring, Scalability, Performance Optimization