

Binyameen Ghafoor

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ABOUT ME

I am a former Test Engineer with a background in Biomedical Engineering working with medical devices, specifically surgical robotics. My past experiences include leading a startup as the only engineer to develop a prototype for a smart pillbox and assisting in the launch of Medtronic's surgical robot HUGO. I've recently completed a software engineering bootcamp to further enhance my programming abilities and become a well rounded engineer. I'm skilled in test automation, verification and validation, CAD, and software development.

TECHNICAL SKILLS

Testing Skills

Environmental Testing | Verification & Validation | FMEA | Design Verification | System & Subsystem Level Testing

Programming Languages and Frameworks

Python | C++ | Matlab | Flask | JavaScript | Node | Express | AWS | React | Redux | HTML | CSS | Git

Additional Skills

Solidworks | Labview | Statistical Analysis (Minitab) | Technical Documentation | Agile | JIRA | Data Collection | JAMA

RELEVANT EXPERIENCE

Lead Test Engineer, Medtronic (Surgical Robotics)

October 2019 – July 2023

- Executed test methods in collaboration with other teams to analyze the performance of a surgical robot.
- Assisted in the development of test methods and test strategies for system and subsystem level requirements.
- Conducted comprehensive data analysis and authored detailed engineering reports to assess test results.
- Analyzed failure data and performed root cause analysis on failure data.
- Collaborated with systems engineering teams to analyze system requirements and define test requirements.
- Calibrated test equipment and created a software application to track the calibration status of all test equipment.
- Assisted in the planning of the weekly test schedule by following project timelines and reviewing backlog.
- Reviewed Test Records and Reports submitted by other Engineers prior to Agile release.
- Developed software applications using Matlab & Python to automate data analysis.
- Performed Test Method Validations and used Gage R&R statistical methods to validate test methods.
- Led software verification to validate the system software, performed both automated and manual testing.
- Wrote scripts in Python to automate the collection of logs for subsystem level components during test runs.
- Troubleshooted and debugged the robotic system & subsystem components when non-intended behaviors occurred.
- Performed reliability studies to increase the use count of surgical instruments.
- Wrote the Standard Operating Procedure for engineering reports that was used across the campus.
- Developed workflows for statistical procedures and trained new hires on using minitab for statistical analysis.

Software Engineer Trainee, Springboard

July 2022 – October 2023

- Explored the application of various data structures and algorithms to analyze and engineer efficient solutions to programming problems.
- Mastered skills in AWS, Fullstack Development, Database management, and leveraging numerous different APIs for web projects. Had 800+ hours of training in software development and completed 15 projects.
- Learned how to better understand software requirements and develop tests for testing software.
- Developed an AI Powered Application using Object-Oriented Programming principles to record, annotate, and summarize conversations between multiple parties, seamlessly converting audio to concise summarized text.

Engineering Intern | Engineer | Engineering Mentor, ERbuddy

June 2019 – July 2023

- Lead a project at a startup to design and develop a smart pillbox.
- Designed and tested the hardware, software, and electronic components for the prototype.
- Assisted in the hiring process for summer interns.
- Mentored and coached interns on engineering related topics primarily hardware and software.

EDUCATION

University of Vermont (UVM) – Burlington, VT - May 2019

- Bachelor of Science in Biomedical Engineering, Minor in Mathematics

Springboard Software Engineering Career Track, Certification - October 2023

- Intensive course in Software Engineering methodologies and technologies