GAURAV GARG
63 Island View Pl, Boston, MA 02125

(+1) 602 910 8632
ggarg5@asu.edu

https://gatjaipur.github.io/gaurav_garg/
https://linkedin.com/in/gaurav-garg20/
https://github.com/gatjaipur/

SUMMARY

Experienced Full-Stack developer with **6 years** in engineering and cybersecurity, specializing in Linux-based embedded systems.

PROFESSIONAL EXPERIENCE

Senior Software Engineer, MathWorks | Natick, Massachusetts, US   **Aug'22 – Present**
- Spearheaded development within **UI Infrastructure** team for **Simulink**, leveraging **C++** for model-based design workflows.
- Developed and integrated a multiline feature for **Simulink Spreadsheets** using **C++** and **Qt** framework, seamlessly enhancing the client's workspace and improving the data manipulation **efficiency** by **15%**.
- Led migration to web technologies (**MDOM JavaScript**), minimizing page load delay in simulation **by 50%** (**from 4s to 2s).**
- Optimized real-time algorithms by **advanced numerical methods in C++** improving **Simulink model accuracy by 30%**.
- Collaborated with QA team to develop **mock object-oriented** testing framework in **MATLAB**, ensuring **100% code coverage** while **saving at least 20-man hours/week** of manual testing and minimizing **regression issues** by **25%.**

Software Engineer Intern, Intel Inc. | Hillsboro, Oregon, US   **May'22 – July'22**
- Developed **GUI** for **NVMe-OF** using **Angular 10** supporting **REST APIs** for **remote provisioning** of drivers, **eliminating** manual configuration of workload by at least **30-man hours/week** and reducing **SCSI latency** in I/O queues by **60%**.
- Collaborated with cross-functional teams of **HPC-storage** ecosystem and streamlined the **deployment process** for **GUI application**, improving the performance & scalability of **non-volatile memory storage** solution across multiple data centers.

Software Developer, Smiths Detection | Bangalore, India   **July'20 – July'21**
- Developed C++ **and Java Linux-based embedded application (Qt Widget** framework**)** for airport security such as X-Ray machines & narcotics detection devices (**IonScan600**), installed at the airports and defense areas in UK and the US (TSA)
- Built the web application triggering the alarm activations from **LCD (Light-Weight Chemical Warfare Agent Identifier / Detector)** in case of emergencies for UK fire department using **Python 3, Flask, Typescript and Angular 10**
- Implemented the **Remote LCD application** using **Java** designed explicitly for the **Indian Army** to detect the chemical weapons from a certain distance by receiving an alarm on a tablet remotely connected with LCD detector and Raspberry Pi
- Winner of **Digithon'21 (hackathon)**, for the idea to predict the loss of passenger items at airport security checkpoints using video analytics (**Object detection** using **Detectron2),** deep learning algorithms and behavioral pattern analysis
- Engineered Features and developed models of explosives detection systems (XCT) installed at airports for survival data analysis and predicting the maintenance service requirement of the product, using **Python** and machine learning algorithm **ARIMA**

Associate Software Engineer, Harman International Industries Inc | Pune, India   **Aug'17 – Mar'20**
- Developed the software for **infotainment systems** which has been installed in over 1 million vehicles in India and Europe
- Collaborated in **Human-Machine Interface (HMI)** team for UI development using **C++ API** and **QT Quick** framework
- Devised end-to-end Vehicle Data Transfer libraries in **JAVA** to send Vehicle **CAN** data over **Bluetooth** and **USB** channels
- Created **Adaptive HMI** service using **Java** facilitating self-learning of user's preferences providing personalized UI screens
- Implemented **Introspection** service in **HMI** using **Qt** providing details for current screen to automate the unit tests
- Developed **linguistic tool** for language localization and translated text strings to more than 100 different languages

SKILLS

Programming: C++ | Java | MATLAB | Python | C | Shell Scripting | HTML5 **|** CSS | Typescript | JavaScript | Angular
Database Servers / Operating Systems: SQL **|** DB2 | PostgreSQL | Apache | Tomcat | Windows **|** Linux (Ubuntu/Centos 7)
Methodologies: Agile | Scrum | JIRA Sprints | Kanban
Unit Test Framework: Google Test (GTests) **|** Qt Tests | Jasmine (Angular 10 Unit testing) | MATLAB Testing | JUnit
Tools and Environments: Qt 5.1 **|** QML | Angular 10 | AWS Lambda | NodeJS | .NET (dot net) **|** Flask | Docker | Kubernetes | Git
Academics: Software Design | Data Structures | Distributed Databases | Algorithms | Problem Solving | Cloud Computing | Operating Systems | Object-Oriented programming | Computer Security | Compiler Design | Data Mining | Genetic Algorithm (Research)

EDUCATION

Master of Science, Computer Science | Arizona State University **|** Tempe, Arizona, US | **GPA: 4.0/4.0**   **July'2022**
Bachelor of Technology, Computer Science and Engineering | LNM-IIT **|** Jaipur, India **| GPA: 9.1/10.0**   **May'2017**

ACADEMIC PROJECTS

E-Commerce Product Intelligence as a Service   **Python, Flask, BERT and Socket IO**   **May'21 – July'21**
https://github.com/gatjaipur/E-Commerce-Product-Intelligence-as-a-Service
- Hosted **HTTP Python Flask** Server with a wrapper of **Socket IO** and used **BERT** ML pretrained model to answer the given user query
- Autoscaling using AWS PaaS service (**AWS Lambda**) and asynchronous communication between client and server using **Socket IO**

Covid'19 Vaccine Notification Service   **JavaScript, node.js and PM2**   **May'21 – June'21**
https://github.com/gatjaipur/Covid-Vaccine-Notification-Service-India
- Implemented **Notification service** using **JavaScript and PM2** to find the available vaccination slots based on one's pin code and age
– Improved the process for booking the vaccination slots by sending email notifications to the user using **nodemailer** module in **node.js**