ANURAG BAMBARDEKAR

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EDUCATION

M.S. Electrical & Computer Engineering – **Rutgers University, New Brunswick, NJ** September 2022 – May 2024
Relevant Courses: *Software Engineering, Computer Architecture, Machine Learning, Data Structures & Algorithms* **GPA:***3.92/4*

B.E. Electronics & Telecommunication Engineering – **University of Mumbai, India** June 2016 – October 2020
Relevant Courses: *Communication Networks & Systems, Wireless Networks, Microprocessors & Microcontrollers* **GPA:***8.47/10*

SKILLS

Coding Languages: Python, Javascript, Typescript, Java, C++, C, Shell, CSS, HTML
Databases: MySQL, PostgreSQL, MongoDB, Amazon RDS
Frameworks: Django, React.js, Flask, Bootstrap, Spring Boot, Express.js
Tools & Libraries: VSCode, vim, git, Powershell, Postman, Node.js, Figma, Arduino, LaTeX, AutoCAD, PyTorch, Docker, Kubernetes, Amazon Web Services (AWS), Azure, RabbitMQ, Selenium, WireShark, GNURadio, GraphQL, ROS, SimpleScalar

EXPERIENCE

Graduate Assistant – **Rutgers University, New Brunswick, NJ** January 2023 – Present
- Driving research at WINLAB to innovate wireless spectrum sharing, addressing Radio Resource Management problems, resulting in the optimization of 5G wireless communication systems.
- Instructed and facilitated lab sessions for Digital Logic Design, guiding 220 students in circuit design and implementation, expanding students' knowledge of digital systems and microcontroller programming.
- Crafted visualizations using Python and led tutorials on Simplescalar, elevating students' grasp of Computer Architecture concepts, resulting in a 99% pass rate.
- Mentored 80 interns through 10 projects at WINLAB, orchestrating an environment of collaboration, resulting in tangible project achievements and individual growth.
- Spearheaded initiatives in distributed data infrastructure, AI security, smart city technologies, vehicular AI, IoT robotics, and 5G systems, poised to redefine technological landscapes.

Junior Technical Consultant – **Encora Innovations Labs, India** October 2021 – May 2022
- Contributed to DHL Express' Perishable Goods Monitoring system, leveraging sensor data for real-time warehouse analysis, achieving a 40% reduction in shipping errors and a 25% increase in on-time deliveries.
- Conducted exploratory data analysis on warehouse sensor data, resulting in a 40% reduction in data dimensionality. Produced actionable reports and visualizations using Plotly, leading to an 80% reduction in spoilage rates.
- Utilized time-series analysis to identify areas for targeted upgrades in the temperature control system. Reduced energy consumption by 25% and increased system reliability by 30%.
- Engineered a scalable and secure Node.js/Express.js backend with a 40% reduction in API response time and implemented multi-factor authentication.
- Automated microservices deployment with Kubernetes and Selenium, achieving 20% faster deployment and 50% reduced resource utilization.

PROJECTS

Urgent Care Management System September 2022 – December 2022
- Led the creation of a healthcare solution with an API-driven infrastructure, resulting in a 25% reduction in patient wait times.
- Created a comprehensive web application featuring patient registration, automated billing, and doctor availability.
- Architected a MySQL-on-AWS backend with JavaScript, Node.js, and Express, integrating Twilio for real-time SMS alerts.
- Enforced role-based access control to bolster security and elevate user experience in healthcare service delivery.

Real Time Analysis of Surveillance Camera June 2019 – October 2020
- Implemented advanced security measures using OpenCV and TensorFlow, achieving 90% accuracy in object detection, including weapons and unattended bags, with Faster R-CNN.
- Published research on 'Real-time Video Surveillance Analysis using Machine Learning' in IRJET, highlighting expertise in facial analysis, object detection, and motion tracking algorithms for enhanced security in surveillance feeds.

IoT Medicine Vending System February 2019 – March 2019
- Constructed a PIN-authenticated, RFID-enabled medication dispensing system, integrating diverse hardware components for streamlined patient medication retrieval and improved accessibility to medicines in remote regions.
- Designed an intuitive interface for doctors to manage prescriptions, minimizing errors and enhancing record-keeping.
- Recognized with the prestigious Second Prize at the esteemed National Level IoT Challenge 2019, underscoring innovation and impact.