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 machine learning research at WINLAB to innovate wireless spectrum sharing, advancing Radio Resource Management and Cognitive Radios.
- 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 dynamic visualizations using Python and led tutorials on Simplescalar, elevating students' grasp of Computer Architecture concepts empowering them to do advanced projects.
- Led and mentored 80 interns through 10 dynamic 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, driving innovation and problem-solving.

Junior Technical Consultant – **Encora Innovations Labs, India** October 2021 – May 2022
- Developed DHL Express' Perishable Goods Monitoring system, utilizing sensor data for warehouse analysis and compliance.
- Conducted Exploratory data analysis with PCA, LDA and Scree Plots, achieving 40% data dimensionality reduction.
- Time-series analysis on collected data revealed actionable insights leading to upgrades to the temperature control system.
- Produced actionable reports with Plotly and D3.js, leading to an 80% reduction in spoilage rates.
- Architected secure Node.js/Express.js backend with RESTful APIs, integrating JWT for scalability and security.
- Automated deployment of microservices with Kubernetes and Selenium, achieving 20% faster deployment and 50% reduced resource utilization.

PROJECTS

Urgent Care Management System September 2022 – December 2022
- Spearheaded the development of a healthcare solution optimizing appointment scheduling, resulting in a 25% reduction in patient wait times and improved scheduling accuracy through the implementation of a robust API-driven infrastructure.
- Designed a dynamic platform encompassing patient registration, automated billing, and real-time doctor availability search.
- Architected a MySQL-on-AWS backend with JavaScript, Node.js, and Express, integrating Twilio for immediate SMS alerts and implementing role-based access for enhanced security and usability.

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 Analysis of Video Surveillance using Machine Learning and Object Recognition" in IRJET, showcasing expertise in facial analysis, object detection, and motion tracking algorithms for enhanced security in real-time video surveillance feeds.

IoT Medicine Vending System February 2019 – March 2019
- Developed a PIN-authenticated, RFID-enabled medication dispensing system, integrating diverse hardware components for streamlined patient medication retrieval and improved accessibility to rural areas.
- Designed an intuitive interface for doctors to manage prescriptions, minimizing errors and enhancing record-keeping.
- Awarded Second Prize at the National Level IoT Challenge 2019 for demonstrating scalability potential and positive impact through seamless integration of hardware components and cutting-edge technologies in the medication dispensing system.