Anurag Bambardekar

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EDUCATION

M.S. Electrical & Computer Engineering − **Rutgers University, New Jersey**   Sept '22 − May '24
Relevant Courses: *Computer Architecture, Machine Learning, Software Engineering, Data Structures & Algorithms* **GPA:***3.92/4*

B.E. Electronics & Telecommunication Engineering − **University of Mumbai, India**   Jun '16 − Oct '20
Relevant Courses: *Microprocessors & Microcontrollers, Communication Networks & Systems, Wireless Networks* **GPA:***8.47/10*

WORK EXPERIENCE

Technical Advisor − **WINLAB, New Jersey**   May '23 − Aug '23
- Guided and mentored a diverse summer internship hosting **79 students** - revealing a breadth of impactful projects highlighting program's reach.
- Led initiatives in cutting-edge areas such as distributed file systems, 5G wireless, AI security, and IoT robotics, yielding **10 impactful projects**.
- Enabled experiential learning, achieving an **80%** project completion rate and elevating participants' technical proficiency by **30%** and empowering them to confidently tackle complex challenges with **60%** expressing increased confidence.

Teaching Assistant − **Rutgers University, New Jersey**   Jan '23 − May '23
- Exhibited computer architecture expertise, aiding student learning and contributing to course refinement efforts.
- Proposed 3 new modules in weekly meetings, boosting student engagement by **20%** and assessment effectiveness by **15%**.

Junior Technical Consultant − **Encora Innovations Labs, India**   Oct '21 − May '22
- Developed and deployed microservices solution at DHL for real-time logistics, driving a **20% efficiency boost** , employing **Python, MySQL, and React.js.**
- Implemented secure JWT authentication and WebSockets for real-time data, resulting in a **30% data latency reduction**, and created RESTful APIs for seamless CRUD operations
- Orchestrated **Docker** and **Kubernetes** deployment, achieving a **50% resource reduction and also an improvement in system uptime.**

PROJECTS

Stocker SEWA (GitHub)   Jan '23 − May '23
- Developed a comprehensive S&P500 analysis web app using **Django framework**, integrating advanced tools such as moving average predictors, sentiment analysis, and clustering to display **top 10 stocks, sectors and trends**.
- Enhanced Investment Decisions: Empowered users, from novices to pros, with insights into market trends and sentiment, optimizing investment strategies and portfolio diversification.
- Implemented **Bayesian regression, k-means clustering (utilized beta values), and interactive visualization** to enrich the app's capabilities and provide users with valuable insights.

Urgent Care Management System (GitHub)   Sept '22 − Dec '22
- Developed a healthcare solution automating processes and optimizing appointment scheduling, resulting in a **25% reduction** in patient wait times and enhanced scheduling accuracy.
- Designed a dynamic platform encompassing key functionalities: patient registration, appointment scheduling, automated billing, and real-time doctor availability and patient status search.
- Architected a **MySQL-on-AWS backend (JavaScript, Node.js, Express)**, API testing on **Postman**, and integrated **Twilio** for immediate SMS alerts, enhancing patient attendance and healthcare efficiency. Role-based access bolstered system security and usability.

Real Time Analysis of Surveillance Camera   Jun '19 − Oct '20
- Employed facial analysis, object detection, and motion tracking algorithms to enhance security measures in a real-time video surveillance feed using **OpenCV and TensorFlow**.
- Utilised **Faster R-CNN** achieving **90% accuracy** in detecting objects, including weapons & unattended bags. Explored **YOLOv3, ResNet SSD, and CNN** for object recognition. Researched occlusion detection and advanced human pose estimation techniques to enhance overall system capabilities.
- **Publication:** "Real-time Analysis of Video Surveillance using Machine Learning and Object Recognition" in IRJET, Vol 7 Issue 2, 2020.

IoT Medicine Vending System   Feb '19 − Mar '19
- Engineered a **PIN-authenticated, RFID-based prescription medicine dispensing system**, empowering patients to efficiently retrieve prescribed medications. Orchestrated the integration of diverse hardware components—**Atmega 32** microcontroller, **ESP8266** WiFi module, EM18 RFID reader module, keypad, relay, and motors—to establish a comprehensive medication dispensing solution.
- Designed an intuitive interface for doctors to manage prescriptions, stored on Google spreadsheets. Minimized errors, improved record-keeping, and enhanced **accessibility to rural areas.**
- **Awarded Second Prize at the National Level IoT Challenge 2019.** Demonstrated scalability potential and positive impact by seamlessly integrating hardware components and cutting-edge technologies.

TECHNICAL SKILLS

Languages: Python, Javascript, Java, C++, C, SQL, CSS, HTML, Shell
Frameworks: Django, React.js, Flask, Bootstrap, Spring Boot, Express.js
Tools & Libraries: VSCode, vim, git, Powershell, Postman, Node.js, Figma, Docker, Kubernetes, RabbitMQ, GraphQL, Arduino, WireShark, ROS, SimpleScalar, AWS, Azure, LaTeX