

# MANDAR BURANDE

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## Education

### Arizona State University

Aug 2024 - May 2026

*Master of Science, Computer Science*

- **Coursework:** Foundations of Algorithms, Computer Architecture II, Probabilistic Reasoning and Learning, Natural Language Processing, Knowledge Representation and Reasoning, Advanced Computer Network Security

### National Institute of Technology, Trichy

Jul 2018 - May 2022

*Bachelor of Technology, Electrical and Electronics Engineering (GPA: 3.57 / 4)*

- **Achievements:** Graduated with a First Class with zero backlogs, Minors in Computer Science Engineering
- **Coursework:** Basics of Programming, Computer Organization, Data Structures and Algorithms, Database Management Systems, Big Data Analytics, Operating Systems, Microprocessors and Microcontrollers, Artificial Neural Networks, Data Communications and Networks, Communication Systems, Software Engineering

## Experience

### ASU Energy Efficiency Center | Database Developer

Dec 2024 - Present

- Developed the full-stack official database website using React, Express.js, Node.js, and MongoDB, enhancing user accessibility and data management
- Ensured the privacy and security of the database by aligning with the Department of Energy guidelines, reducing potential data breaches
- Consulted with industrial clients on cybersecurity measures and recommendations, leading to improved data protection and compliance

### Wells Fargo | Software Engineer, Assistant Vice President

Jul 2022 - Jul 2024

- Collaborated with business users to revamp the FX Payment Tracker UI using Angular 14, enhancing user experience and aligning with the latest technology standards
- Designed an event-streaming Notification service using Java, SpringBoot, and Apache Kafka, improving real-time data processing capabilities. Transformed legacy business flows by transitioning from a monolithic to micro-services architecture, increasing system scalability and flexibility
- Created an automated exception handling and retry mechanism to improve the performance of streaming and processing notifications from 24 hours to 1 hour
- Contributed to Wells Fargo being recognized as the Best FX Bank in North America in the Euromoney Foreign Exchange Awards 2023 by enhancing technology solutions in the Forex Payment Tracker team

### CoffeeBeans Consulting LLP | Web Developer Intern

Jun 2021 - Aug 2021

- Developed REST APIs in Express.js and implemented backend data processing functions, enhancing data retrieval efficiency and system reliability
- Leveraged Data Visualization libraries such as Chart.js and D3.js to present processed data on the frontend, improving user engagement and data comprehension
- Improved the performance of the official website by 60% by reducing loading time, blocking time, and implementing asynchronous HTTP request processing

## Skills

- **Programming Languages:** Java, JavaScript, C++, Python, TypeScript
- **Tools & Technologies:** Git, Azure, AWS, Jenkins, Jupyter Notebook, GCP, Kubernetes, Node.js, Express.js, React.js, Angular, Spring-Boot, MongoDB, SQL, Apache Kafka, Maven, Spring Data JPA, Java Messaging Service (JMS), IBM MQ, Redis, Mockito, Swagger, Pandas, Numpy, TensorFlow, PyTorch, UNIX, Agile, Jira, Docker
- **Certifications:** AZ-900: Microsoft Azure Fundamentals - Microsoft, Responsive Web Design - Coursera, University of London, Problem Solving - HackerRank

## Research and Project Work

### Cyber Attack Detection In Power System SCADA Networks Using Machine Learning Techniques

Jan 2022 - May 2022

- Developed machine learning models to accurately identify cyber-attacks in increasingly connected supervisory control and data acquisition (SCADA) networks. These models can be leveraged in power systems, power generation, and distribution plants to identify, thwart, and counter such malicious attacks.
- Utilized the Modbus Protocol to simulate communication between the Control Centre and the Field Devices. Simulated cyber attacks using the Man-in-the-middle technique.
- Resulted in an accuracy of 96% in identifying malicious cyber-attacks. Wrote a thesis under the guidance of Dr. M Jaya Bharata Reddy.

### Website Development for Currents '22

Jun 2021 - Apr 2022

- As the head of DevOps for the EEE Association, designed and developed the official website for EEE Department's annual symposium, Currents 2022.
- Led a team of 12 department juniors and managed the workflows for front-end as well as backend development. Personally designed the backend APIs to handle calls from both the web app and the Android app.
- Used React.js for the frontend, Node.js for the backend, Express.js for REST APIs and MongoDB for database with Amazon AWS S3 for storage. The backend served more than 10k API calls from the web and mobile apps over three days of the symposium