

AMITESH DUBEY

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Education

State University of New York at Binghamton

Master of Science in Computer Science, 3.85/4.00 GPA

Binghamton, New York

August 2022 - May 2024

University of Mumbai

Bachelor of Engineering in Computer Engineering, 3.70/4.00 GPA

Mumbai, Maharashtra, India

August 2017 - May 2021

Technical Skills

Relevant Coursework: Data Structures & Algorithm, Cloud Computing, Object Oriented Programming, Distributed Systems, Operating Systems, Computer Architecture and Organization, Database Systems, Design Patterns

Languages: Java, JavaScript/TypeScript, C, Python, Swift

Technologies/Frameworks: Node.js, React.JS, Vue.JS, Express.JS, Spring Boot, Git, Django, Kafka, Docker, Kubernetes, GCP

Database: MongoDB, MySQL, PostgreSQL

Experience

SUNY Center for Energy-Smart Electronic Systems(ES2)

Binghamton, New York, US

Graduate Research Assistant

January 2023 - Present

- **Developed** a BiLSTM prediction model incorporating the Huber loss function to accurately forecast power consumption **20 seconds** in the future based on server load, facilitating on-demand IT capacity provisioning and precise cooling control in data centers.
- **Integrated** the model to scale servers and provide automatic cooling based on the overall server utilization
- **Evaluated** the power predicted with a thermal model in controlling the blower fan speed to meet instantaneous IT Load decreasing the power consumption of servers by **10%**

Capgemini

Mumbai, India

Software Engineer

June 2021 - July 2022

- **Engineered** GE Corporate application using React JS, Node JS and Typescript to build an easy drag-and-drop UI builder tool that automated the development of static GE Corporate webpages for **20+** applications, impacting nearly **500+** users
- **Orchestrated** the redesign of the GE Aviation website from Angular to VueJS, harnessing modern front-end technology and advanced JavaScript features, resulting in a significant **30%** boost in UX task success rates while leading a team of **4+** engineers
- **Collaborated** with the testing team to identify and address system test and validation issues utilizing Jest and Enzyme, resulting in a **20%** reduction in web crashes and improving the overall user experience

Projects

E-Shopify

Personal Project

- **Designed** a fully functional E-commerce Platform using a combination of React JS for the Frontend, Express.JS for middleware, Spring Boot for the Backend and MongoDB for the database
- **Created** a user-friendly interface with react components and Material-UI allowing seamless navigation between pages, product selection and cart management
- **Implemented** secure user authentication and authorization using JWT tokens and designed REST API's for user registration, product management and order processing

Instruction Pipeline Simulator

Computer Architecture

- **Engineered** a C based application which supports out-of-order as well as in-order execution of assembly code instructions
- **Integrated** Register Renaming, Branch Prediction, Tag based data forwarding centralized instruction Issue Queue and a Reorder Buffer in the processor simulator which increased the processor performance by **25%**

Virtualization

Cloud Computing

- **Spearheaded** the implementation of Software-Defined Networking principles, employing OpenFlow protocols to dynamically manage network flow rules on Google Cloud Platform(GCP), significantly enhancing efficiency and improving overall network performance
- **Developed** the Dockerized deployment of a web app, ensuring portability and consistency, while also pioneering Kubernetes orchestration with YAML files for efficient container management within the cluster.

Live Reddit Data Analysis

Personal Project

- **Spearheaded** the creation of a robust backend infrastructure using Spring, Kafka and PostgreSQL incorporating Reddit and 4chan APIs for seamless data collection from more than **10,000+** posts
- **Visualized** in-depth sentiment analysis, employing advanced Natural Language Processing (NLP) tools such as TextBlob, utilizing time-series analysis to uncover patterns in user engagement, providing actionable insights into the correlation between sentiment, community activity, and the impact of real-world events on online sports discussions achieving an **90%** accuracy rate
- **Incorporated** an intuitive frontend user interface using React JS, integrating Recharts and Material-UI components for dynamic data visualization