

Tushar Ranjan

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EDUCATION

Master of Science, Computer Science, Drexel University, Philadelphia, PA | **CGPA: 3.85/4**

Sep 2023- June 2025

- Relevant coursework: Artificial Intelligence, Computer Vision, Data Structures and Algorithms, Developing user Interface, Computer Networks, Software Project Management

Bachelor of Engineering, Information Science, DSCE, Bengaluru, India | **CGPA: 8.67 /10**

Aug 2019 – Jun 2023

- Relevant coursework: Data Science & Analytics, Software Engineering, Cloud Computing

SKILLS

Programming Languages: Python | HTML | CSS | Javascript | Java | SQL

Libraries/Frameworks: React.js | Django | NumPy | Pandas | Flask | Node.js | Langchain | Llama3 | Cohere | Qdrant | FastAPI

Tools/Platforms: Git and Github | MATLAB | Figma | Linux | AWS | Oracle Cloud Infrastructure | tmux | nginx | Supabase

Databases: MySQL | MongoDB | PostgreSQL

Technologies: Large Language Models(LLM) | Generative AI | Retrieval-Augmented Generation(RAG)

WORK EXPERIENCE

BUSINESS WEB SOLUTIONS | WEB DEVELOPMENT INTERN | Bengaluru, India

Mar 2023-May 2023

- **Redesigned** and **enhanced** UIs using HTML5, CSS3, and JavaScript ES6 to improve visual appeal and functionality, resulting in a **30% increase** in user engagement and retention across multiple projects.
- **Developed** and **optimized** backend applications with Python and Django, **refining** database queries using SQL and PostgreSQL, which **improved** server response times by **25%** and reduced resource consumption.
- **Created** and implemented over 10 reusable React.js components to develop dynamic and interactive web pages, contributing to a **20% increase** in site traffic and enhanced user experience.
- **Improved** version control processes by **streamlining** Git/GitHub workflows, which reduced merge conflicts by **40%** and **boosted** collaboration efficiency across three cross-functional teams.
- *Tech Stack:* HTML5, CSS3, JavaScript ES6, React.js, Python, Django, SQL, PostgreSQL, Git/GitHub

M-KUBE | SWE INTERN | Sydney, Australia (Remote)

Mar 2022-June 2022

- **Engineered** a front-end revamp, **designed** responsive interfaces and **integrated** new features, resulting in a **35% increase** in user engagement.
- **Optimized** project workflows and **standardized** coding practices, achieving a **40% increase** in project delivery efficiency by ensuring seamless cross-device compatibility and back-end integration.
- *Tech stack:* HTML5, CSS3, JavaScript ES6, React.js, JSON, AJAX, Git/GitHub

PROJECTS

AgentPals: Transforming Real Estate with AI-Driven Insights ([Link](#))

- **Conceptualized and developed AgentPals**, an innovative **Generative AI-powered platform** that revolutionizes real estate transactions by automating and analyzing disclosure forms, drastically reducing manual errors and saving time for agents.
- Engineered the entire backend infrastructure from the ground up using **FastAPI**, **Cohere**, **Qdrant**, **Supabase**, and **LangChain**, and designed a responsive frontend with **React**.
- **AWS-deployed** application using **NGINX** for server management and **tmux** for session stability.
- Introduced a state-of-the-art **Retrieval-Augmented Generation (RAG) chat feature**, allowing users to interact intuitively with all documents related to a property, enabling smarter decision-making and enhanced client communication.
- **Empowered real estate agents** with advanced AI tools to manage property disclosures effortlessly, increasing their operational efficiency and ensuring compliance with regulations.
- *Tech Stack:* Python, FastAPI, Cohere, Qdrant, Supabase, LangChain, React.js, AWS, NGINX, tmux

Zest – Real-time chat application ([Link](#))

- **Developed** a secure, real-time chat application using the MERN stack, Socket.IO, and JWT, **facilitating** instant messaging, seamless user interactions, and secure access control, while enhancing performance and scalability through optimized websocket management.
- **Implemented** state management with Zustand and **optimized** real-time responsiveness using efficient websocket techniques.
- **Designed** robust error handling for both server and client sides to ensure a smooth user experience and enhance application reliability.
- *Tech Stack:* MongoDB, Express.js, React.js, Node.js (MERN), Socket.IO, TailwindCSS, Daisy UI, Zustand

CERTIFICATIONS

- **Oracle Cloud Infrastructure 2024 Generative AI Certified Professional** | Oracle ([Link](#))
- **Java Programming Masterclass updated to Java 17** | Udemy ([Link](#))
- **HTML, CSS, and Javascript for Web Developers** | Coursera ([Link](#))