Harsh Dwivedi

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EDUCATION

M.S. in Computer Engineering **August 2024 - May 2026**
Syracuse University, Syracuse, New York

Bachelor of Engineering in Electronics Engineering **August 2019 - July 2023**
Mumbai University, Navi Mumbai, Maharashtra

TECHNICAL SKILLS

Programming Languages: Python, Java, C++, C#, JavaScript, TypeScript
Web Development: HTML, CSS, ReactJS, Node.js, Bootstrap, Spring Boot, Express.js, jQuery, Tailwind
Software Development Tools: Git, Docker, Jenkins, RESTful APIs, Postman, Visual Studio Code
Cloud & Database Management: AWS (EC2, S3, RDS), Microsoft Azure, PostgreSQL, MySQL, MongoDB, DynamoDB
DevOps & CI/CD: Kubernetes, Jenkins, GitHub Actions

WORK EXPERIENCE

Assistant System Engineer | Tata Consultancy Services (TCS) **January 2024 - July 2024**
- Automated monitoring and issue resolution using **Python scripting** and **PowerShell**, reducing system downtime by 30% and ensuring 99.9% uptime for critical operations by enabling real-time detection and faster recovery.
- Managed servers and user accounts on **Azure Cloud** with **ManageEngine** and **Microsoft 365**, implementing **RBAC** to enhance security compliance and reduce unauthorized access incidents by 40%.
- Built scripts for automated log analysis, patch management, and resource allocation using **Python** and **PowerShell**, cutting manual workload by 15 hours per week and improving efficiency by 20%.

Freelance Web Developer | Picky with Picks **November 2022 - January 2023**
- Built responsive single-page applications (SPAs) using **ReactJS** for dynamic user interfaces and **Node.js** with **Express.js** for backend, ensuring efficient data handling and reducing API response times by 20%.
- Enhanced code maintainability and reduced runtime errors by 20% through the use of **TypeScript** for type safety, while employing **RESTful APIs** for seamless data integration between client and server sides.

Cloud Intern | AICTE **October 2021 - December 2021**
- Deployed cloud-native applications on **AWS (EC2 Instances)**, integrating **Docker** containers and managing them with **Kubernetes** to ensure automated scaling and 99.9% uptime, improving scalability by 40%.
- Implemented serverless functions using **AWS Lambda** for asynchronous processing and **Terraform** for infrastructure as code (IaC), streamlining resource provisioning and reducing server costs by 20%.

Data Intern | TCR Innovation **June 2021 – August 2021**
- Built scalable data pipelines using **Python, Pandas**, and **Flask** for ETL processes, reducing data transformation times by 30% and improving data accuracy, while ensuring secure data exchange through **RESTful APIs**.
- Developed interactive dashboards using **ReactJS** and **Power BI**, transforming complex datasets into actionable insights, reducing data analysis times by 40%, and enabling real-time monitoring for stakeholders.

PROJECTS

DevChat | *Python, TypeScript, React, Node.js, LangChain, OpenAI API* **March 2025 - Present**
- Developed **AI-powered DevChat**, leveraging **LangChain** and **OpenAI API** to generate intelligent code suggestions and responses, enhancing developer productivity by automating repetitive tasks.
- Built and optimized a **React**-based chat interface with **Node.js** and **TypeScript**, ensuring seamless real-time interactions while improving backend efficiency for faster response times.

Trello Clone | *Python, Flask, MongoDB, ReactJS* **October 2024 - December 2024**
- Designed and developed **RESTful APIs** using **Flask** to handle over 5,000 requests per day efficiently, optimizing performance to achieve an average latency of 120ms, thereby ensuring seamless user experience and high availability.
- Utilized **MongoDB** to manage and store over 10,000 tasks efficiently, implementing indexing to reduce query time by 30%, enhancing data retrieval speed and overall system performance.

MongoDB | *C++, JavaScript, Python* **January 2024 - April 2024**
- Optimized **C++**-based storage, indexing, and query execution, improving response time and boosting efficiency by 20%. Enhanced **Replication and Sharding**, reducing lag and strengthening fault tolerance in distributed clusters.
- Built and maintained **Atlas**, MongoDB's managed cloud service, integrating automated backup, security, and monitoring. Improved **Python** and **JavaScript** drivers for seamless database interaction across platforms.

PATENT

"A PROCESS OF ANALYZING CONTROL SYSTEMS, BY USING A HARDWARE-IN-THE (HIL) LOOP SIMULATION AND A COMPUTER IMPLEMENTED SYSTEM, OF AN INDUSTRIAL PLANT" -**Application No. 202321073609**