Kaustubh Uday Kulkarni

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EDUCATION

Arizona State University **August 2025**
Master of Science, Computer Science, GPA: 3.8/4.0 Tempe, Arizona
PES Institute of Technology **August 2021**
Bachelor of Engineering, Computer Science, GPA: 3.2/4.0 Bengaluru, India

SKILLS

Programming Languages: Java, Python, JavaScript, TypeScript , Go, C++, SQL, C, HTML, CSS
Frameworks and Libraries: Django, Flask, React, Next.js, Remix.js, Supabase, Flask, HuggingFace, LangChain, PyTorch
Tools and Technologies: Docker, Kubernetes, AWS (Lambda, API Gateway, DynamoDB, SQS, EC2), GitHub Actions, Generative AI, RAG, MySQL, PostgreSQL, scikit-learn, Machine Learning, Pandas, Numpy
Soft Skills: Cross-Functional Collaboration, Communication, Decision Making, Leadership

PROFESSIONAL EXPERIENCE

Founding Software Engineer **August 2021 - May 2023**
Prevale **Bengaluru**

- Spearheaded the migration from Nextjs to Remix framework, implementing server-side rendering and progressive enhancement, resulting in 75% improvement in Core Web Vitals
- Engineered a modular component architecture with TypeScript, leveraging Remix's nested routing and data loading patterns, leading to 40% reduction in client-side JavaScript and enhanced SEO performance
- Integrated TailwindCSS for consistent styling and maintainable component design.
- Integrated Docker with CI/CD pipelines using GitHub Actions, enabling continuous deployment with zero downtime and enhancing system reliability by 30%.
- Designed and managed database architecture using PostgreSQL and Supabase, implementing row-level security policies for enhanced data protection.

Software Developer Intern **December 2020 - April 2021**
Global Discovery Academy **Bengaluru**

- Developed and implemented a comprehensive REST API system using Django REST Framework, achieving 40% faster response times through efficient database query optimization and connection pooling
- Architected and executed a robust data migration pipeline processing educational data for 7+ schools, implementing automated validation checks and error handling that improved processing speed by 60%
- Engineered an efficient student data processing system using Python and OpenPyXL, handling complex Excel data transformations while maintaining data integrity across multiple school databases
- Implemented secure user authentication and authorization system supporting multiple user roles with JWT token-based authentication

PUBLICATIONS AND PROJECTS

Research Intern **August 2020 - August 2021**
PESIT Research Center **Bengaluru**

- Co-authored research paper titled *'Metaheuristic Optimisation for Phishing Detection*', Presented at IEEE INCET 2022.
- Proposed and formulated a Neural Network model, accurately classifying websites as legitimate/phishing. Applied two Metaheuristic Optimization Algorithms like Salp Swarm and Emperor Penguin Algorithms to optimize and better performance of model achieving a reduction in computation time by 55%

Elastic Cloud Application **January 2024 – March 2024**
Web Applications **Tempe**

- Architected a serverless video analysis pipeline using Docker, AWS Lambda, EC2, S3, and SQS.
- Engineered an auto-scaling infrastructure using EC2, SQS queues, CloudWatch that efficiently processed 10,000 video frames while maintaining consistent performance
- Designed and deployed containerized face recognition services on EC2 instances that efficiently processed 100 concurrent video requests within a 300-second timeframe, ensuring reliable performance.

Elastic Cloud Application **January 2024 – March 2024**
Web Applications **Tempe**

- Architected a responsive web portfolio using JavaScript, Vite for efficient bundling, and GitHub Pages for hosting.
- Applied Vite for minimal build times and asset optimization, improving load performance and enhancing user experience across device
- Engineered seamless client-side routing with React Router and optimized component rendering, creating a fluid single-page application experience with efficient state management and smooth navigation