

Dev Singh

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EDUCATION

University of Illinois Urbana-Champaign
BS/MCS in Computer Science

Urbana, IL | Exp. May 2026

- Pursuing combined Bachelor's/Master's degree.
- **Coursework:** Data Structures, Algorithms and Models of Computation, Deep Learning for Computer Vision.
- **Minor:** Business

Course Assistant (CA): CS 357: Numerical Methods I, CS 341: Systems Programming

EMPLOYMENT

Capital One | Software Engineer Intern

McLean, VA | June 2024 - August 2024

- Automated fraud discovery and shared-attribute linking from card transaction data, estimated to **reduce fraud investigation time by 16%**, reduce operational costs by approximately \$5M, and enhance financial integrity by reducing fraud write-off losses.
- Implemented **end-to-end testing frameworks**, along with **central error handling and logging systems**, to increase application resiliency and enhance production support operations.
- Built a scalable **full stack application** using **TypeScript, React, AWS Fargate, AWS Neptune (Graph DB) and Kafka**.

Caterpillar Inc. | Software Engineer/MLOps Intern

Chicago, IL | May 2023 - December 2023

- **Cut anomaly detection pipeline runtime by 86%**, leading to a **boost in after-market service sales** and an eightfold increase in supported assets, using **Python** and **Java**.
- Led the transition from traditional systems to scalable solutions through the integration of asynchronous I/O, multi-threading operations, and **Redis databases**.
- **Decreased storage costs by 8%** and optimized AWS resource allocation in **AWS SageMaker** by leveraging **AWS Lambda, S3, and API Gateway** to create a serverless model cleanup and testing tool.
- Prevented security breaches by implementing CI/CD pipelines for vulnerability scanning, regression testing, and alerting.

Zakti Security Labs | Software Engineer Intern

Naperville, IL | May 2019 - April 2023

- **Reduced non-compliant and unauthorized accesses to regulated systems by 15%** through the development of custom client-focused tools in **Node.js, Java** and **Python** that enable businesses to identify and mitigate data risks proactively.
- **Developed disaster response and recovery plans** that enable business continuity and recovery for high-risk organizations.
- Performed security audits for clients using the **NIST and OCTAVE cybersecurity frameworks** to deter cyberattacks.

TIMAN Group | Student Researcher

Champaign, IL | Sep 2020 - August 2022

- Conducted **deep learning in computer vision** research by assisting in the development of the **first contrastive multimodal video transformer model** for video classification tasks.

PROJECTS

Association for Computing Machinery @ UIUC 📄

2022 - Present

- Built various custom processes with **AWS Lambda, AWS ECS, and Azure Active Directory** to automate ticket sales, new member provisioning, and just-in-time access controls across internal and third-party services.
- Developed a resume book to connect ACM students and corporate recruiters.
- Achieved a **40% reduction in application downtime**, enhanced brand recognition, and realized **30% cost savings** by architecting and leading infrastructure modernization projects. Initiatives included building and deploying a mail server, custom link shortener, **Kubernetes cluster**, and central events management system.

Kilpi 📄

2021 - 2022

- **Streamlined confidential information exchange** and boosted employee productivity in highly-regulated businesses by creating an **end-to-end encrypted message portal** using **Node.js, Docker, C++, and SQL**.
- Enhanced efficiency while upholding HIPAA, GDPR, and SOC2 compliance standards.

Epoch @ IMSA 📄

2019 - 2022

- **Spearheaded the development of a CUDA-enabled high-performance computing cluster**, integrating provisioning automation to streamline resource allocation and deployment using the SLURM job scheduler.