Ayush Koul

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EDUCATION

San Jose State University (SJSU)   San Jose, CA
Masters's in Computer Science   *August 2023 - May 2025*
- <u>Relevant Courses</u>: Topics in Machine Learning, Server-Side Web Programming

Graphic Era University   Dehradun, India
Bachelor's in Computer Science (GPA: 3.8 / 4.0)   *August 2018 - June 2022*
- <u>Relevant Courses</u>: Design and Analysis of Algorithms, Data Structures in C, Cloud Computing

TECHNICAL SKILLS

Programming Languages	C, C++, Python, Java, C#, JavaScript/TypeScript, SQL
Frameworks/Tools	React, Next.js, Prisma, tRPC, GraphQL, Flask, .Net, Git, Docker
Databases	MongoDB, MySQL, PostgreSQL, Firebase
Cloud Platforms	Azure, AWS (EC2/S3), GCP, Digital Ocean
Operating Systems	Linux, Unix, Windows, MacOS, iOS, Android

CERTIFICATIONS

Azure Fundamentals (AZ-900) | Microsoft   April 2021
Azure Data Fundamentals (DP-900) | Microsoft   March 2021

WORK EXPERIENCE

Samsung Research   Bangalore, India
Software Engineer   *August 2022 - July 2023*
- Programmed an XR Input Simulation tool in Unity for device-agnostic testing, decreasing development time by 80% and expediting project delivery
- Developed a Unity package with 25+ reusable UI components and development tools for XR developers
- Architected a scalable native Android camera service using Google's Camera2 API and HAL (Java, C++) with multi-threaded client requests and shared memory for a 65% increase in system performance
- Re-engineered the camera frame synchronization method for fewer frame drops, optimizing frame rate and rendering by 54%
- Built a real-time camera frame visualization and performance analysis tool using OpenCV adopted by 4 departments and 60+ employees for advanced insights and debugging

Arohar Technologies   Dehradun, India
Software Development Intern   *April 2019 - September 2019*
- Developed an internal CRM tool with ASP.NET and MySQL for monitoring client data. Implemented using an MVC architecture and employed by over 2000 users
- Integrated CRUD operations on the database with stored procedures in PL/SQL to enhance data management and storage, reducing query execution time by 30%
- Leveraged Azure's App Service for automated scalability and cut deployment time by 70% with Azure DevOps and CI/CD

PROJECTS

- **Discuss** - An instant messaging and VoIP social platform, made using Next.js 13 and MySQL, that enables users to join servers and communicate in channels. Leverages web sockets with optimistic updates for 60% faster multimedia file transfers and video/voice conferencing.
- **CppML** - A C++ Machine Learning library from scratch that includes models for Regression, KNN, K-Means, Hidden Markov Models, and Neural Networks.
- **Movie Recommender** - A full-stack web app, built using Flask, that applies cosine similarity with TF-IDF to rank and recommend movies according to the user's preference with a satisfaction rate of 94%.