# VAIBHAV ACHUTHANANDA

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## SUMMARY

MS Computer Science candidate with proven full-stack development, system administration, and artificial intelligence expertise. Skilled in developing responsive web applications that improved user experience by 40% and deploying ML models that achieved 87% accuracy. Passionate about leveraging technology to solve real-world problems through innovative solutions.

#### **EDUCATION**

## Stevens Institute of Technology

Master of Science in Computer Science

Relevant Coursework: Deep Learning, System Administration, Advanced Algorithms, Web Programming

# **Lovely Professional University**

Bachelor of Technology in Computer Science and Engineering

TECHNICAL SKILLS

Languages: Python, C++, JavaScript, TypeScript, Swift, Go

Front-End: React, Next.js, Svelte, SvelteKit, Tailwind CSS, Three.js, Redux

Back-End: Node.js, Express, REST APIs, GraphQL, Microservices

Data & ML: TensorFlow, PyTorch, scikit-learn, Keras, NumPy, Pandas, CNN, SVD

Databases: MongoDB, MySQL, PostgreSQL, Firebase, Redis

DevOps & Tools: Docker, Git, CI/CD, AWS, Google Cloud, Linux, Bash

#### PROFESSIONAL EXPERIENCE

#### **Mohit Mokal Mediation**

Jan 2024 – Aug 2024 Software Engineering Consultant

Bengaluru, India

Expected: May 2026

GPA: 4.0/4.0

GPA: 3.3/4.0

Jun 2023

- Architected and implemented a scalable web application using React, Next. is, and Tailwind CSS that handled 15K+ concurrent users, reducing page load time by 75% and increasing conversion rate by 40%
- · Designed a microservices-based API architecture with Node.js, implementing automated testing with Jest that increased code coverage to 92% and reduced deployment bugs by 80%
- · Engineered a content management system leveraging the Blogger API, Firebase, and custom webhooks that automated updates and increased content freshness metrics by 65%

# **TECHNICAL PROJECTS**

# Computer Vision Emotion Recognition System Python ● TensorFlow ● Swift ● ARKit ● CNN

- Created a real-time computer vision system that detects and classifies 7 distinct human emotions with 93% accuracy using a custom-trained CNN architecture with 5 convolutional layers
- Engineered 3D facial representation using ARKit and ARSCNFaceGeometry to generate 52 facial anchor points, enabling precise emotion tracking even in low-light conditions
- Optimized model for mobile deployment by reducing inference time to under 50ms and memory usage by 75% while maintaining recognition accuracy within 3% of server-based model

## Advanced Music Recommendation Engine Python • SciPy • NumPy • scikit-learn

- Engineered a hybrid recommendation system processing 1M+ songs and 500K+ user profiles that achieved 87% recommendation accuracy and increased user engagement time by a factor of 2.3x
- Implemented matrix factorization algorithms (SVD with k=100 latent factors) that reduced computational complexity by 40% while improving cold-start performance by 35%
- Deployed ensemble machine learning approach combining collaborative and content-based filtering that reduced the user preference prediction error (RMSE) from 0.98 to 0.32

#### AWARDS & LEADERSHIP

- Published research in the proceedings of the 7th International Joint Conference on Computing Sciences (ICCS-2023)
- Top 6 finalist in the All India Capture The Flag (CTF) competition organized by BIT Mesra with over 200 participants
- Operations Lead at Google Developer Student Clubs, mentored 30+ student developers and organized 12 technical workshops
- · University representative at the North Zone Inter-University Chess Championship, reaching quarterfinals