

HARINARAYANAN U

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PROFILE SUMMARY

Computer Science student with production experience in mobile and backend development. Proven track record optimizing system performance, building AI-powered solutions, and delivering scalable applications with measurable business impact. Focused on solving complex technical challenges through efficient software engineering.

EDUCATION

Amrita Vishwa Vidyapeetham

November 2022 – Present

Bachelor of Science in Computer Science

Kollam, Kerala

CGPA: 7.89/10

Related Coursework: Data Structures & Algorithms, Operating Systems, Databases, Machine Learning, Computer Networks, AI & Deep Learning

EXPERIENCE

TiVo

August 2024 – October 2024

iOS Developer Intern

Bangalore, India

- Optimized native iOS streaming platform UI/UX components resulting in 15% increase in daily active users.
- Implemented AVPlayer caching mechanisms reducing buffering time by 25% and user retention from 78% to 85%.
- Redesigned 8 SwiftUI components increasing user flow efficiency by 30% and satisfaction scores by 20%.

PROJECTS

Coreasim: Medical Simulation Platform – React.js, Next.js, Three.js, WebAssembly

February 2025 – Present

- Built web-based corneal surgery simulator reducing pre-operative planning time by 40%.
- Developed WebAssembly FEA solver achieving 15ms real-time computation with 95% accuracy.
- Optimized inference pipeline using Docker containers, cutting processing time by 60%.

ProTrack: Code Activity Logger – Python, VS Code Extension, GitHub API

December 2024 – July 2025

- Developed automated logging system to eliminate manual productivity tracking, reducing logging overhead by 90%.
- Integrated GitHub API to capture development workflow data, processing 500+ daily commits with real-time updates.
- Built analytics dashboard to provide team productivity insights, improving workflow visibility by 75%.

SushiGo: Food Delivery App – Swift, Django, Stripe API, GPS

June 2023 – December 2023

- Developed a full-stack iOS delivery app with Django backend serving 500+ orders across 6 months.
- Built real-time order tracking with Stripe integration to ensure payment reliability, achieving 99.5% success rate.
- Optimized Enhanced GPS routing and developed a recommendation engine, improving ETA accuracy by 35%, customer satisfaction to 4.6/5, and average order size by 25%.

ACHIEVEMENTS & PUBLICATIONS

NeuroCode: RLHF-Enhanced Dual-Model for Proactive Bug Prediction

August 2025

4th International Conference on Machine Learning and Data Engineering (Scopus Indexed)

- Published research on semantic context integration for AI-driven code autocompletion, reducing hallucinations by 42% and improving suggestion relevance by 35% across 10K+ code samples.
- Implemented dual-model architecture combining GPT and CodeBERT, achieving 89% accuracy in bug prediction.

PrivMod: FL-Based Content Moderation for Decentralized Networks

September 2025

Third International Conference on Industry 4.0 2025 (I4Tech2025, Scopus Indexed)

- Presented work on **privacy-preserving content moderation** in decentralized platforms using **federated learning, CNN-BERT hybrid models, differential privacy, and secure aggregation protocols**.
- Achieved 94% accuracy while maintaining $\epsilon = 0.5$ differential privacy guarantee across 100K+ decentralized network samples.

TECHNICAL SKILLS

Languages: Swift, Python, Java, JavaScript, Rust

Mobile: iOS SDK, SwiftUI, UIKit, Core ML, AVFoundation, Xcode, MVVM

Backend & Web: Django, REST APIs, PostgreSQL, MongoDB, React.js, Next.js

AI/ML: TensorFlow, PyTorch, CNNs, NLP, Computer Vision, FEA Simulation

Cloud & Tools: Docker, Git, GitHub Actions, Linux/Unix, Stripe API, WebAssembly

Methodologies: Agile/Scrum, TDD, Version Control, Code Review

LEADERSHIP / WORKSHOPS

InnoQuest - Technology & CS Workshop

Workshop Leader

November 2024

Carmel International School

- Led technology workshop for 50+ high school students, achieving 95% completion rate and inspiring 40% to pursue CS careers.

Student Social Responsibility Program

October 2024

Python Programming Instructor

Amrita Vishwa Vidyapeetham

- Instructed 50+ high school seniors in Python programming, achieving 90% pass rate in final coding assessments.
- Designed 10+ interactive coding modules improving students' algorithmic problem-solving skills by 70% over 2 weeks.