

AYUSH SHAH

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TECHNICAL SKILLS

- **Programming Languages:** Java, C, C++, Dart, HTML, CSS, JavaScript, Python, Solidity, Swift |
- **Frameworks and Libraries:** Flutter, ReactJS, NodeJS, ExpressJS, NextJS, React Native, Django, OpenCV, and WordPress |
- **Front-end Library:** Bootstrap, React-Bootstrap, Tailwind, and Material UI | **IDE's:** VS Code, Android Studio Code, Xcode
- **Databases:** MySQL, MongoDB, Firebase Real-time and Firestore, and DynamoDB | **Version Control:** Git |

PROFESSIONAL EXPERIENCE

Professor Hayoun's Lab, Keck Medicine of USC

Los Angeles, California

Research Assistant

September 2024-Present

- Enhance immune cell analysis workflows by providing a scalable solution to analyze datasets ranging from 1 GB to 100 GB stored on cloud platforms
- Develop a full-stack web application using Next.js, Django, Docker, Nginx, and Gunicorn, combining AWS EC2, Dropbox, and Google Drive APIs for seamless data access, while authoring two research papers on immune cell analysis methods

Kellogg Northwestern Incubator Local

Evanston, Illinois (Remote)

Lead Mobile App Developer and Backend Integrator

April 2024-July 2024

- Led development of an urban exploration platform for users having over 100 organizers on board, enabled users to book restaurant tables, reserve event tickets, and schedule activities
- Engineered mobile app with AWS DynamoDB, integrated backend systems, synchronized app features with website, and mentored junior developers, guiding app architecture and integration
- Conceptualized app prototype, facilitated its funding approval, and orchestrated its launch on both the App Store and Play Store getting over 50 beta testers

Harvard Medical School affiliated Mclean Hospital

Massachusetts, Boston (Remote)

Research Developer Intern - DigitalSoul

September 2022-September 2023

- Developed a digital tool enabling users to explore spirituality's role in well-being through animated videos and interactive exercises, designed specifically for use in clinical research studies having over 50 patients
- Enhanced a Flutter app to capture user responses through interactive questionnaires and educational modules, optimized backend storage with AWS DynamoDB while implementing secure authentication through AWS Cognito
- Published app on App Store after thorough testing on TestFlight, and having over 1k impressions, improving data collection and facilitating clinicians in evaluating impact of spiritual well-being activities on patient outcomes

Mantra Therapy

Mumbai, India

Mobile Application Development - Freelance

July 2023-August 2023

- Engaged with a client to design and engineer a spiritual mobile app aligning daily practices with lunar calendar, providing users with daily mantras and insights based on astrological influences
- Coded a cross-platform mobile application in Flutter, incorporating a tithi tracker, mantra meditation options, and detailed insights for 16 tithis, all while adhering to client's design, requirements, and feedback
- Delivered app in a one-month timeline, addressing client's feedback and complying with App Store and Play Store policies for a smooth deployment. App gained over 50 users within first month of launch

PROJECTS

Medical Product Tracking using NSQR *GitHub*

Aug 2023-June 2024

- Orchestrated creation of a blockchain-based solution utilizing NFTs, self-custodial wallets, and QR codes to verify authenticity of medical products, addressing 10.5% counterfeit drug problem as stated by World Health Organization
- Overcame technical barriers in integrating self-custodial wallets with NFTs, ensuring seamless user experience and privacy. Authored a research paper outlining solution's scalability, with potential for application across 5+ product sectors

Proposed Methodology for Real-Time Pistol Detection System *Research Paper*

September 2021-August 2023

- Collaborated with IT department's assistant head on a research project wherein devised a system utilizing YOLOv5 to detect pistols in real-time from CCTV, it sends an alert to concerned authority upon detection
- Authored and presented a paper on same at ICACCTA conference in October 2023 with securing 2nd best paper of category

Derivation of Sum of N Squares' formula *GitHub*

January 2023-May 2023

- Collaborated with C-DAC India to help XII standard CBSE board students understand derivation of Sum of N squared formula implementing 3D cubes and an interactive User Interface
- Engineered web application by synthesizing Next.js, React3D, and Tailwind CSS technologies

EDUCATION

University of Southern California

Los Angeles, California

Pursuing Master of Science in Computer Science (GPA - 3.85/4)

August 2024-Present

Mumbai University

Mumbai, India

Bachelor of Technology with Honors in DevOps (CGPA - 9.48/10)

December 2020-June 2024