Abhinav Sadhu

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Relevant Coursework

Academic Research, Data Structures and Algorithms, Artificial Intelligence, Machine Learning, Deep Learning, Data Science, Web Programming, Mobile App Development, Database Management, Operating Systems, Networks and Communication, Microprocessor Interfacing, Blockchain and DLT, Soft Skills

Languages and Technical Skills

Programming: Java, Python, Dart, C, JS, TypeScript, Solidity, VB, C#, SQL, Rust
AI: Keras, TensorFlow, R, Python Libraries (Ex: NumPy, Matplotlib, OpenCV, scikit-learn, etc.), IBM Watson Services
Mobile App Dev: Flutter
Web Dev: Java-fullstack, Angular, NodeJS, HTML/CSS, Bootstrap, Django, Flask, MongoDB
Databases: MySQL, MongoDB, Firebase
Blockchain: EthereumJS, Truffle-suite, Solidity, Ganache
Desktop App Dev: Flutter (Dart), Tauri (Rust), .NET (VB/C#), Tkinter (Python)

Projects

fuzzyFeedbackCAPTCHA   Java, Python
- Designed and developed a software application using fuzzy logic to dynamically adjust CAPTCHA difficulty parameters and generate text-image challenges.
- Optimized CAPTCHA solving difficulty for performance evaluation.
- Authored a research paper (Manuscript no.: JCS-230245) in the Journal of Computer Security, titled "Fuzzy Feedback-based Dynamic CAPTCHA Generation."
- The paper explored the use of user responses to indirectly evaluate CAPTCHA difficulty and automatically adjust distortion parameters for a balance between usability and security.

StudyDash   Python, .NET, Flutter, Firebase
- Developed cross-platform student software (Windows and Android) featuring real-time data sync, notifications, user management, and UI customization.
- Implemented integrated task management functionalities (activity reminders, task alarms, to-do list, assignment submission tracker).

zilminerGUI   .NET frontend (Desktop)
- Developed an interface software utilizing all capabilities of the "zilminer" cryptocurrency miner.
- Enhanced functionality with session history for user configuration storage and auto-start capabilities and created comprehensive usage documentation as a GitHub Wiki user manual.

SupplyChainBlockTracker   Truffle Suite, Solidity, Web Dev
- Designed and developed a blockchain-powered information tracking system, where products are logged through every stage of the supply chain.
- Implemented smart contracts to managed network membership, and facilitated various transaction types between members.

Miscellaneous: Audio-based sticky notes app lets you maintain voice-memo-styled desktop sticky notes (python), "myuzik" a bot that plays music on discord calls (a popular voice-video chat app) (python), "MadAstra" an astronomy-oriented API-based weather analysis and information app that showcases parametrized generative animations (Flutter)

Education

Vellore Institute of Technology   Vellore, TN, India
(Integrated) M.Tech in Computer Science and Engineering   *2020 - 2025*
Sri Sathya Sai Higher Secondary School   Puttaparthi, AP, India
Science   *2018 - 2020*

Certifications and Experience

AI Analyst – IBM | Data-Driven Astronomy – University of Sydney | Hands on ML (Python) – Udemy
Managed workshops, events, and members as a *Senior Core Member* at the VIT Animation Club