Aaditya Prabu Kandhaswamy

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EDUCATION

College of Engineering Guindy, Anna University *Chennai, India*
Bachelor of Technology Information Technology ; CGPA: 8.49/10.00 (First Class) *Nov. 2020 - Jun. 2024*

Srimathi Sundaravalli Memorial School, Chromepet *Chennai, India*
Central Board of Secondary Education; Class 10: 88%; Class 12: 95.4% *2017 – 2020*

TECHNICAL SKILLS

Programming Languages: Python, JavaScript, Golang, C/C++, C#, Java
Runtime/Platform: NodeJS
Frameworks: React, Express, GIN, Flask, .NET
Libraries: OpenCV, Hugging Face Transformers, NumPy, Pandas, TensorFlow, Scikit-learn
Developer Tools: VS Code, Insomnia, IntelliJ IDEA, Grafana, Jaeger Tracing, GitHub, BitBucket, Confluence, JIRA, Unity Engine, Blender
DevOps Tools: GoCD Pipelines, Docker, EC2, AWS
Operating Systems: Linux, Unix, Windows
Databases: MongoDB, PostgreSQL, ChromaDB

WORK EXPERIENCE

IDFC FIRST Bank Limited *Chennai, India*
Application Engineer *Jul. 2024 – Present*
Squad: Fraud Risk Management

- Currently working on Project Optimus, a web and mobile banking application, with a focus on building rule engines, and tracking and blocking malicious activities to enhance system security
- Developing machine learning systems to detect anomalies in customer behavior, automating scripts for generating daily and monthly rule breach reports, and creating proof of concepts to introduce and validate new ideas
- *Skills: Python, Golang, NodeJS, MongoDB, Redis, Kubernetes, Docker, AWS, React, GOCD Pipelines, Grafana, Unleash Feature Toggles, Jaeger, JIRA, Confluence*

PROJECTS

Newspaper Visual Question and Answering *Aug. 2023 - Jun. 2024*

- **Objective:** To develop an end-to-end Retrieval-Augmented Generation application that efficiently searches a vector knowledge database of e-newspapers and fetches the best matching articles related to the prompted question
- It uses YOLOv8 to segment the newspaper into individual entities, OCR to extract the content, a vector database to store the content, and a Sentence Transformer (all-MiniLM-L6-v2) to find the best match for the question within the knowledge database
- It also includes a feedback mechanism that suggests previously asked similar questions and their related articles to users, enhancing user experience and accuracy of 41.96%
- *Tools/Technologies: React, Python, Hugging Face, SQLite 3, ChromaDB, Roboflow, Tesseract OCR*

AR-Tutor *Mar. 2023 - May. 2023*

- **Objective:** To develop an AR application that tracks human pose coordinates using a webcam, streams the data in real time, and uses a smartphone to receive the stream and augment a coordinate-mapped 3D human model onto a real-world plane surface
- It utilizes multi-threading to broadcast the coordinates and receive the coordinates at different processing speeds, which is bridged by a buffer queue
- AR Tutor was selected for representing IT Department for NAAC evaluation
- *Tools/Technologies: Python, Socket Programming, C#, Unity AR/VR, Media Pipe Pose Tracking Library, Threads*

Student Performance Prediction and Analysis *Jul. 2022 - Sep. 2022*
- **Objective:** To analyze the Open University Learning Analytics dataset to understand student performance and dropout patterns using clustering algorithms and data mining techniques
- Predicted student performance using various supervised machine learning models and the most efficient and accurate model was Artificial Neural Networks, which had a 90% accuracy score
- *Tools/Technologies: Python, Scikit-learn, Pandas, Numpy, Matplotlib, Seaborn*

Attendance System *Nov. 2021 - Jan. 2022*
- **Objective:** To develop an online attendance system that integrates face detection to verify a student's presence via webcam when they submit their attendance photo, allowing lecturers to cross-check submissions with registered photos for authentication
- It includes multiple attendance submissions for students at random intervals during the lecture
- IT Department lecturers found this very innovative and helpful
- *Tools/Technologies: Javascript, HTML/CSS, Bootstrap, Go Lang, PostgreSQL, pg Agent, FaceDetection.js*

INTERNSHIPS

IDFC FIRST Bank Limited *Jan. 2024 - Jun. 2024*
Project Intern *Chennai, India*
- Developed a movie booking application using Golang, ReactJS, and PostgreSQL by applying principles of Test-Driven Development (TDD), CI/CD pipelines, and Agile methodologies
- Explored the fundamentals of Business Analysis through collaborative team sessions and practical exposure
- Conducted technical sessions on Computer Networks, Operating Systems, and WebSocket programming, as well as non-technical sessions like "Food for Thought," highlighting the importance of mindful eating

Pavartha Software Ltd *Jun. 2023 - Jul. 2023*
App Development Intern *Chennai, India*
- Developed an Ionic-Angular Android application using sunset-sunrise JS library, that displays the sunrise and sunset time when a location is given

POSITIONS OF RESPONSIBILITY

Head Of Events *Jun. 2023 - May 2024*
Anna University Student Entrepreneurship Club, CEG *Chennai, India*
- Managed and led a team of 100 for organizing the signature event of Anna university - "ENANTRA"

NSS Unit 1 Team Leader *Aug. 2022 - May 2024*
Nation Service Scheme, CEG *Chennai, India*
- Organized multiple blood donation and community service camps, and supported orphanage children by painting their living spaces and teaching basic math and science, with a team of 20

Class Representative *Jul. 2023 - May 2024*
Information Technology Department, CEG *Chennai, India*
- Took responsibility of assigning classrooms, preparing schedules by checking the availability of faculties, collecting assignments and projects, mediating between the students and the faculties

ACHIEVEMENTS

Selected for Presentation at NAAC Evaluation *Sep. 2023*
Anna University *Chennai, India*
- AR Tutor project represented the IT Department at the National Assessment and Accreditation Council which is a government organization in India that assesses and accredits Higher Education Institutions

First Place in VYUHA '21 Blank Coding *Jul. 2021*
Anna University *Chennai, India*
- Secured first place in Blank coding which is an Anna University's Tech Event

Third Place in I++ '21 · OLPC and OSPC *May 2021*
Anna University *Chennai, India*
- Competitive coding events conducted by Information Technology Club of Anna University both in online and offline modes