Ahamed Dhahlan

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SUMMARY

Dynamic Engineering student with a strong foundation in Python, JavaScript, Django, and Next.js, and a keen interest in developing scalable and distributed applications. Experienced in full-stack development, APIs, and machine learning. Adept at designing high-performance components and passionate about contributing to innovative solutions in customer engagement. Committed to producing high-quality, maintainable, and secure software.

EDUCATION

Bachelor of Science in Engineering (Honors) - Electrical and Information March 2021 – Present

University of Ruhuna, Galle, Sri Lanka

- ✓ *GPA*: 3.8/4.0 (or your actual GPA)
- ✓ *Relevant coursework*: Software Engineering, Data Structures & Algorithms, Object-Oriented Programming, Database Systems, Machine Learning, Artificial Intelligence (Replace with your actual courses)

GCE Advanced Level and GCE Ordinary Level January 2017 – August 2019

Zahira College, Kalmunai, Sri Lanka

- ✓ *Subjects Studied*: Physics, Chemistry, Mathematics, English, Sinhala, (Replace with your actual subjects)

PROJECTS

EduZone: An Innovative E-learning Platform - Group Project July 2024

- ✓ Developed a comprehensive e-learning platform that includes courses and projects, utilizing React for frontend development and Django for the backend.
- ✓ Integrated Python and Django to handle server-side logic and manage database interactions efficiently.
- ✓ Implemented a user authentication system using JWT tokens for secure user access and data protection.
- ✓ Developed machine learning models to personalize learning experiences, recommend relevant courses, and track user progress.

Technology Used: React, Node.js, Python, Django, JWT token, Machine Learning

CodeForgeAI: Code Generation from Webpage Screenshots May 2024

- ✓ Created a tool to generate code from webpage screenshots with real-time previews, enhancing coding efficiency.
- ✓ Utilized OpenCV for image processing and feature extraction from webpage screenshots.
- ✓ Trained a TensorFlow model to recognize and interpret visual code patterns, generating corresponding code snippets.
- ✓ Implemented a user interface using Flask/Django to provide a user-friendly platform for code generation.

Technology Used: Python, OpenCV, TensorFlow, Flask/Django, JavaScript, HTML/CSS

Intrusion Detection System using Machine Learning: Enhancing Network Security July 2024

- ✓ Trained an advanced Intrusion Detection System (IDS) leveraging machine learning techniques to detect and mitigate network intrusions, providing real-time monitoring and alerting capabilities.
- ✓ Utilized both supervised and unsupervised learning approaches to analyze network traffic and identify anomalous behavior, ensuring comprehensive security coverage.
- ✓ Implemented a system to collect and preprocess network traffic data using pandas and numpy libraries.
- ✓ Developed a Flask/Django-based web application to visualize and analyze intrusion detection results.

Technology Used: Python, scikit-learn, TensorFlow, Flask/Django, pandas, numpy, SQL

Singlish GPT: Language Model for Sinhala in English Letters July 2024

- ✓ Implemented a GPT model for Singlish text processing and generation using mT5 and various libraries.
- ✓ Fine-tuned the model on a dataset of Sinhala text written in English letters to achieve high accuracy in language generation.
- ✓ Leveraged Hugging Face transformers library for efficient model training and inference.
- ✓ Integrated Aksharamukha library to handle Sinhala text processing and conversion.

Technology Used: Python, Hugging Face, transformers, PyTorch, Aksharamukha, Google

LipLexa: AI-powered Lip Reading System for Videos January 2024

- ✓ Created a state-of-the-art lip reading application with TensorFlow and OpenCV; increased accessibility for hearing impaired by 70% and achieved 40% faster processing speeds.
- ✓ Developed an advanced algorithm for accurate speech interpretation from visual cues, with applications in security, assistive technology, and media analysis, resulting in a 50% increase in detection reliability.
- ✓ Utilized OpenCV for video processing, lip detection, and feature extraction.
- ✓ Implemented a TensorFlow-based deep learning model to recognize and interpret lip movements.

Technology Used: Python, TensorFlow, OpenCV, Matplotlib

RealVision+: An Advanced Face and Expression Analysis Application September 2023

- ✓ Developed a cutting-edge face recognition app capable of accurately identifying individuals and predicting their gender in real-time.
- ✓ Utilized OpenCV for face detection, feature extraction, and real-time video processing.
- ✓ Implemented a machine learning model to recognize and classify faces with high accuracy.
- ✓ Integrated Matplotlib to visualize face detection and recognition results.

Technology Used: Python, ML, OpenCV, Matplotlib

GestureGear: Hand-Gesture Controlled Car Racing Game January 2024

- ✓ Engineered an advanced real-time hand tracking and gesture recognition system, achieving a 40% increase in user interaction accuracy and elevating overall gameplay experience.

- ✓ Utilized OpenCV and Mediapipe for hand tracking and gesture recognition in real-time.
- ✓ Developed a game engine that responds to hand gestures to control the car's movements.
- ✓ Integrated Matplotlib to visualize hand tracking data and game performance.

Technology Used: Python, OpenCV, Mediapipe, Matplotlib

GloSign: Empowering Deaf Communication February 2024

- ✓ Developed a sign language translator achieving 96% accuracy in gesture recognition, facilitating communication for the deaf.
- ✓ Integrated gesture recognition, speech-to-text algorithms, and wearable devices.
- ✓ Utilized OpenCV for gesture recognition and video processing.
- ✓ Implemented a machine learning model trained on a dataset of sign language gestures.
- ✓ Developed a user interface for sign language translation using Arduino for hardware control.

Technology Used: Python, C++, Arduino, ML

SKILLS

Languages

C/C++: Proficient in C/C++ programming, with experience in object-oriented programming and system development.
Python: Extensive experience in Python for data analysis, machine learning, web development, and automation.
JavaScript: Experienced in JavaScript for front-end development, working with frameworks like React and Next.js.
SQL: Skilled in SQL for database management and querying, including relational database design and optimization.

Libraries

Hugging Face: Leveraged Hugging Face libraries for natural language processing tasks, such as text classification, sentiment analysis, and text generation.
Transformers: Utilized Transformers library for advanced NLP tasks involving pre-trained models and transformer architectures.
Pandas: Proficient in Pandas for data manipulation, cleaning, and analysis, including data visualization using Pandas DataFrames.
NumPy: Experienced in NumPy for numerical computations, array manipulation, and linear algebra operations.
Matplotlib: Utilized Matplotlib for data visualization, creating plots, charts, and figures for data analysis and presentation.
Seaborn: Experienced in Seaborn for statistical data visualization, generating aesthetically pleasing plots for insights.
TensorFlow: Experienced in TensorFlow for machine learning and deep learning, including model training, evaluation, and deployment.
PyTorch: Proficient in PyTorch for deep learning applications, particularly for building and training neural network models.

Web Development Tools

Node.js: Experienced in Node.js for server-side development, working with Express.js for building APIs and web applications.
VS Code: Skilled in Visual Studio Code for code editing, debugging, and project management.
Git: Experienced in Git for version control, collaborating with teams on code projects, and managing code changes efficiently.

GitHub: Utilize GitHub for code hosting, collaboration, and sharing projects with the open-source community.

Frameworks

React.js: Proficient in React.js for building user interfaces, components, and web applications using a component-based approach.
Django: Experienced in Django for building web applications using the Model-View-Controller (MVC) architectural pattern.
Next.js: Experienced in Next.js for building server-side rendered and statically generated web applications with performance optimization features.
FastAPI: Experienced in FastAPI for building high-performance APIs with a focus on simplicity, efficiency, and ease of use.
.NET: Some experience with .NET framework for building Windows applications and web services.

Databases

MongoDB: Experienced in MongoDB for working with NoSQL databases, handling large datasets, and implementing document-oriented storage.
Firebase: Experienced in Firebase for real-time database functionalities, authentication, and cloud-based services.
MySQL: Proficient in MySQL for relational database management, designing and implementing database schemas, and performing SQL queries.
Apache Spark: Some experience with Apache Spark for distributed data processing, handling large-scale datasets, and performing parallel computations.

Development Practices

TDD: Experience with Test-Driven Development (TDD) for writing unit tests before writing code, promoting code quality and reducing bugs.
BDD: Experienced in Behavior-Driven Development (BDD) for defining software requirements and tests based on user behavior.
Code Reviews: Active participant in code reviews, providing constructive feedback and improving code quality through collaboration.
Unit Testing: Proficient in unit testing techniques for verifying code functionality and ensuring that individual components work as intended.

Relevant Coursework

Data Structures & Algorithms: Strong understanding of data structures and algorithms, including their implementation and applications in software development.
Operating Systems: Knowledge of operating system concepts, such as process management, memory management, and file systems.
Machine Learning: Experienced in machine learning concepts, algorithms, and techniques for building predictive models and solving real-world problems.
Database: Proficient in database concepts, including database design, SQL querying, and database management systems.
Artificial Intelligence: Understanding of AI concepts, including knowledge representation, problem-solving, and AI techniques.
Natural Language Processing: Experienced in NLP techniques for processing and understanding human language, including text classification, sentiment analysis, and machine translation.
Computer Vision: Knowledge of computer vision techniques for analyzing images and videos, including object detection, image recognition, and video analysis.

Soft Skills

- ✓ Problem Solving: Ability to analyze problems, identify solutions, and implement effective solutions.

- ✓ Self-learning: Dedicated to continuous learning, staying updated with emerging technologies and trends.
- ✓ Presentation: Strong communication skills, able to effectively present ideas and technical information to diverse audiences.
- ✓ Adaptability: Flexible and adaptable to changing environments, able to learn new technologies and work with different teams.
- ✓ Critical Thinking: Ability to analyze information, evaluate options, and make informed decisions.

CERTIFICATES

- ✓ Certificate in Introduction to Web Development with HTML, CSS, JavaScript
- ✓ Certificate in Introduction to Cloud Computing
- ✓ Certificate in Introduction to Deep Learning & Neural Networks with Keras
- ✓ Certificate in Machine Learning with Python
- ✓ Certificate in Python for Data Analysis: Pandas & NumPy
- ✓ edX Verified Certificate for Data Science: Machine Learning
- ✓ Certificate in SystemVerilog for ASIC/FPGA Design & Simulation

ACHIEVEMENTS

- ✓ Participant, Commercial Bank Hackathon, Commercial Bank June 2024
- ✓ 2nd Runners up, Haxtreme 2.0, IEEE Society November 2023
- ✓ Top 10%, AWS Deep Racer, AWS August 2023

REFERENCES

References available upon request.