HARITH ABEYSINGHE
Final Year Undergraduate

+94 77 66 190 60 | harithabeysinghe@gmail.com | harith-abeysinghe | harith-abeysinghe | Panadura, Sri Lanka

Introduction

Hardworking and self-motivated final-year Computer Engineering undergraduate with a strong passion for software development, machine learning, and artificial intelligence. Committed to continuous learning and growth, with a strong drive to tackle challenges and contribute to meaningful, real-world solutions. Thrive in dynamic environments and see every obstacle as a chance to improve and innovate.

Education

- **University of Peradeniya** *2021 - Present*
  BScEngHons specializing in Computer Engineering Current GPA: 3.95/4.00
- **Sri Sumangala College, Panadura** *2006 - 2019*
  G.C.E. Advanced Level Z-Score: 2.1160

Work Experience

- **Software Engineer - Intern** *July 2024 - Jan 2025*
  GTN Technologies (Pvt.) Ltd.
  - Worked on a project to rewrite a legacy system using modern technologies and architecture.
  - Built scalable backend services in a microservices environment with a focus on clean API design and maintaining data consistency.
  - Developed and implemented frontend components in a micro frontend structure to support modular development and scalability.
  - Designed and optimized APIs and database schemas to improve database performance and reduce response latency.
  - Technologies: ***Java, SpringBoot, Typescript, React, PostgreSQL, GraphQL, AWS,.NET Core***

Selected Projects

- **AI Driven Latency Constrained Resource Management In Kubernetes | Group** *Jan 2025 - Present*
  - The project aims to integrate online learning for real-time workload prediction and leverage reinforcement learning for adaptive resource allocation.
  - Contribution:
    - Reviewed literature on workload prediction techniques, developed and deployed microservices in a Kubernetes cluster.
    - Configured Prometheus for monitoring, and executed load tests to assess system performance. Built a Prometheus data scraper for collecting metrics and automated resource management using CronJobs.
    - Currently experimenting with and evaluating machine learning models to enhance real-time workload prediction accuracy.
  - Technologies: ***Kubernetes, Docker, Python, Java, Go, Prometheus***

- **Hand Tremor Based Recognition System | Group** *Feb 2024 - July 2024*
  - Developed a machine learning solution for multi-class classification of hand tremor data captured via a Leap Motion device. The project investigated using hand tremor as a behavioral biometric for security applications.
  - Contribution:
    - Performed data preprocessing and exploratory data analysis to prepare hand tremor data for model training.
    - Designed a Naive Bayes classification model that achieved 95.9% accuracy and evaluated performance using accuracy, precision, recall, and F1-score to ensure robustness and reliability.
  - Technologies: ***Python, NumPy, Scikit - Learn, Pandas***

- **AR Combat - First Person Shooter Augmented Reality (AR) Game | Group** *Nov 2023 - Feb 2024*
  - Designed and developed interactive gameplay mechanics that blend augmented reality with physical movement, promoting active participation and enhancing player immersion.
  - Contribution:
    - Developed the AR application using Unity's AR Foundation Framework, implementing core gameplay mechanics such as gun interaction, targeting, and collision detection.
    - Integrated Google Cloud Anchors to enable shared AR experiences across devices, allowing players to view and interact with virtual objects in a common space.
  - Technologies: ***Unity, C#, AWS, Python***

- **Website for ESCAL | Group** *Jun 2023 - Oct 2023*
  - Contributed to the development of the Embedded Systems and Computer Architecture Laboratory (ESCAL) website for the Department of Computer Engineering, University of Peradeniya.
  - Contribution: Added functionality to automate the extraction and integration of project data from an API endpoint, ensuring that projects related to ESCAL were displayed on the ESCAL website.
  - Technologies: ***Python, Jekyll, HTML, CSS***
- **Python Automation Projects | Individual** *Aug 2023 - Sep 2023*
  - Developed an automation tool to organize and clean local folders by sorting files based on their type; scheduled to run automatically using Windows Scheduler. Leap Motion device.
  - Created a Gmail inbox cleanup tool that filters emails efficiently using subject line patterns.
  - Implemented the Gmail automation using the Google API to securely and programmatically access and manage mailbox content.
  - Technologies: ***Python, Google API***
- **Baby Development Tracking System | Group** *May 2023 - Jul 2023*
  - A mobile application designed to assist parents, guardians, public health midwives, and doctors in tracking and managing the development of babies from 0 to 5 years old.
  - Contribution: Developed the backend of the mobile application and integrated it with Firebase for real-time data management and synchronization.
  - Technologies: ***Android Studio, Java, Firebase***
- **Library Management System | Group** *May 2023 - Jul 2023*
  - Designed a library management system to keep track of books, members and loan transactions.
  - Contribution: Developed the backend by connecting to a MySQL database and implementing CRUD APIs to manage entities efficiently.
  - Technologies: ***MySQL, PHP, HTML, CSS***

Honors and Awards

- **IEEE Innovation Nation Sri Lanka | 3rd Place - Central Province** *2024*
  A competition organized by IEEE Young Professionals for aspiring entrepreneurs. Presented AR Combat.
- **ACES Coders v11.0 | 11th Place (Out of 150+ Participants)** *2024*
  An inter-university 12-hour coding competition organized by the University of Peradeniya
- **ACES Coders v10.0 | 9th Place (Out of 150+ Participants)** *2023*
  An inter-university 12-hour coding competition organized by the University of Peradeniya
- **ACES Hackathon | Winners - Category: Other** *2023*
  An intra-university hackathon competition organized by the University of Peradeniya. Developed the 'Zero Cost NotePad,' utilizing image processing and machine learning, to make notes using a pen on reusable surfaces.

Additional Experience

- **Casual Instructor** *2023 - Feb 2025*
  University of Peradeniya
  Worked as a Casual Instructor for modules including Third Year Project, Data Structures and Algorithms, Programming Methodology, and Computing.
- **Volunteer** *Aug 2023*
  APAN56 Conference
  Volunteered at the 56th Meeting of the Asia Pacific Advanced Network (APAN56) held from the 21st to the 25th of August 2023 in Colombo, Sri Lanka.

Skills

- **Programming Languages:** Java, Python, TypeScript, JavaScript, C, C#
- **Database Systems:** PostgreSQL, Firebase, MySQL, MongoDB
- **Frameworks:** Spring Boot, Unity, Android Studio
- **Libraries:** React, NumPy, OpenCV, Scikit - Learn, Pandas
- **DevOps & Version Control:** Docker, Kubernetes, Git, Github, GitLab
- **Professional Skills:** Prompt Engineering, Problem Solving, Critical Thinking, Adaptability, Team Collaboration

References

Prof. Roshan G. Ragel
Professor
Department of Computer Engineering
Faculty of Engineering
University of Peradeniya, Sri Lanka
Email: roshanr@eng.pdn.ac.lk
Phone: +94-81-239-3913

Dr. Isuru Nawinne
Senior Lecturer
Department of Computer Engineering
Faculty of Engineering
University of Peradeniya, Sri Lanka
Email: isurunawinne@eng.pdn.ac.lk
Phone: +94-81-239-3470