

HIRUSHI GUNASEKARA

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PROFILE

Final-year Computer Engineering undergraduate at the University of Peradeniya with expertise in Artificial Intelligence, Software Engineering, Backend Development, and Frontend Development. Skilled in developing scalable AI-driven solutions and full-stack web applications using Python, React.js, Node.js and Spring Boot. Proven track record in delivering high-impact projects, including an award-winning IoT system and unsupervised learning models. Passionate about leveraging machine learning and RESTful APIs to solve real-world challenges.

EDUCATION

- **University of Peradeniya** March 2021 - Present
BScEngHons in Computer Engineering GPA: 3.55/4.00
- **Sirimavo Bandaranaike Vidyalaya, Colombo 07** May 2017 - Dec 2019
G.C.E. Advanced Level Examination Z-Score: 2.1633
 - District Rank – 151, National Rank - 524/19508

PROJECTS

- **Extending GSOM for Unsupervised Learning-Based Modeling | Group** Dec 2024 - Present
Tools: Python (Pygsom, Minisom, NumPy, Pandas, Scikit-learn, Matplotlib), Google Colab, Git [🔗] [🌐]
 - Developed an enhanced Growing Self-Organizing Map (GSOM) model in Python, automating unsupervised clustering and reducing runtime and parameter tuning
 - Validated GSOM's topology preservation using metrics, outperforming SOM
 - Implemented Data Skeleton Modeling (DSM) to identify clusters
 - Skills: Unsupervised Clustering, Feature Engineering, Data Visualization
- **Impact Tracking System For Athletes (IMPAX) | Group** Nov 2023 - Mar 2024
Tools: React.js, Node.js, Typescript MongoDB [🔗] [🌐]
 - Developed a real-time impact monitoring system for sports utilizing wearable devices and dashboards with an integrated backend and secure database
 - Implemented backend services using Node.js with TypeScript
 - Designed progress tracking logic spanning weeks and months with comprehensive analytics capturing all recorded impacts for informed decision-making
 - Achieved **Highest-Ranked 3rd-year Project of the Batch** and **1st Runner-up in SLIoT Competition 2024**
- **Web Application For A Gym (GymHub) | Group** Aug 2023 - Nov 2024
Tools: React.js, Spring Boot, MySQL, Swagger [🔗] [🌐]
 - Developed a comprehensive gym management system to streamline operations, including appointment scheduling, progress tracking, and personalized workout plans
 - Integrated backend services (database, email functions) using Spring Boot
 - Utilized Swagger for API documentation and testing
- **Library Management System Web App | Group** May 2023 - Aug 2023
Tools: React.js, Spring Boot, MySQL, Postman [🔗] [🌐]
 - Developed a robust library management system to manage book inventories, user management, and catalog search
 - Designed and implemented RESTful APIs using Spring Boot
 - Configured and managed MySQL database
 - Utilized Postman for testing.

EXPERIENCE

- **Effective Solutions (PVT) LTD** [🌐] July 2024 - December 2024
Trainee Associate Software Engineer Trace City, Colombo 10
 - Assigned to the Fleet Management project
 - Developed and revamped the front-end interface using React.js
 - Developed a department configuration feature within the admin panel.
 - Designed a fuel filter using FIR signal processing, enhancing fuel monitoring accuracy by 10
- **Department of Computer Engineering, University of Peradeniya** October 2023 - March 2025
Undergraduate Teaching Assistant
 - Supervised 2-hour lab sessions for 2nd and 3rd-year undergraduates

SKILLS

- **Programming Languages:** Python, C, Java, JavaScript, SQL
- **Web Technologies:** HTML, CSS, PHP
- **Web Frameworks:** Spring Boot, React.js, Node.js, Symfony
- **Database Systems:** MySQL, MongoDB
- **Data Science & Machine Learning:** Pandas, Scikit-learn, NumPy
- **Version Control:** Github, Bitbucket
- **Specialized Area:** Machine Learning, Neural Networks, RESTful API Development
- **Mathematical & Statistical Tools:** R, Matlab


COMPETITION ACHIEVEMENTS

- **ACES Coders v11.0 | 12-hour Algorithmic Programming Competition** Oct 2024
Association of Computer Engineering Students of the University of Peradeniya
 - Secured 16th place among 80+ talented teams and 250+ participants
- **SLIoT Competition 2024 | Sri Lanka's Largest Annual National IoT Competition** Jan 2023
Department of Computer Science & Engineering, University of Moratuwa
 - 1st Runner-up (out of 100+ teams)
- **ACES Coders v10.0 | 12-hour Algorithmic Programming Competition** Oct 2023
Association of Computer Engineering Students of the University of Peradeniya
 - Got selected from Pre-Coders Out of 50+ Teams
- **Sparklink 1.0 | Advanced Electronic Design Competition** Sept 2023
IEEE Student Branch of University of Ruhuna
 - 2nd Runner-up (Out of 30+ Teams)
- **ACES Hackathon 2023 | Innovative Hackathon Competition** June 2023
Association of Computer Engineering Students of the University of Peradeniya
 - Most Popular Team (Health Care Category) (Out of 70+ participants)
 - Developed prototype and project proposal for mobile health app targeting non-communicable diseases, with features including centralized data management, appointment scheduling, medication reminders, remote monitoring, and report access

LEADERSHIP EXPERIENCE

- Team Leader | IGV Marketing | AIESEC Feb 2022 - Aug 2022
- Vice President | New Inventors Club | Sirimavo Bandaranaike Vidyalaya Mar 2018 - Mar 2019
- Junior Prefect | St. Joseph's Girls' School, Nugegoda Dec 2014 - Dec 2015

VOLUNTEER EXPERIENCE

- **Technical Support** Aug 2023
LEARN (Lanka Education And Research Network) 
 - Contributed to the success of APAN56, in Colombo from August 21st to 25th, 2023, through dedicated volunteer work
 - Provided technical support using tools including ATEM for video streaming, managed Zoom sessions, achieving 100% uptime for 5 days
 - Configured DTEN devices for hybrid sessions, reducing connectivity issues Provided technical support for video streaming using ATEM,

CERTIFICATIONS

- **University of Michigan:** [Programming for Everybody \(Getting Started with Python\)](#) June 2021
- **SymfonyCasts:** [Cosmic Coding with Symfony 7](#) July 2024

REFERENCES

Prof. Roshan G. Ragel

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Dr. Isuru Nawinne

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