Praveenasarma Baskarakurukkal

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Final year Computer Science and Engineering undergraduate at the University of Moratuwa, currently working on a research project in Semantic Similarity and Uncertainty Quantification. Skilled in Python, Java, and Spring Boot with experience in web development and backend systems. Actively seeking opportunities in software engineering, machine learning, or NLP.

**EDUCATION**

* University: University of Moratuwa - BSc (Hons.) in Computer Science and Engineering (2022 – present)
* CGPA: 3.4875/4.0
* High School: Jaffna Hindu College (2012 – 2020)
* Primary School: Jaffna Hindu Primary School (2007 – 2011)

**EXPERIENCE**

* **Software Engineering Intern - GTN Technologies (Pvt) Ltd, Colombo, Sri Lanka***Dec 2024 – Jun 2025*
* Developed an Event Planning System using Java; later migrated it to Spring Boot with PostgreSQL
* Automated API testing with Playwright for validation, pagination, permissions, and error handling
* Created Mermaid.js diagrams to visualize architecture and improve system understanding
* Implemented validations for a monitoring application and analyzed execution time
* Performed peer testing and verifying expected outputs of system components
* **Mentee – MIND Mentoring Program - The Corridors Academy**  
  *Jan 2025 – Jun 2025*
* Completed a 6-month mentoring program focused on personal branding, communication, and leadership
* Awarded Certificate of Excellence and secured 2nd Place in the final cohort evaluation

**PROJECTS**

* **Semantic Similarity & Uncertainty Quantification (Final Year Research Project)**

**Tech stack – Python, PyTorch (in progress)**

Exploring methods to compute semantic similarity between texts while quantifying uncertainty in predictions. Currently conducting literature review on embedding-based similarity techniques and evaluating models for trustworthiness in NLP tasks such as question answering.

* **Smart Parking System – ParkEase**

**Tech stack – React, MySQL**

Developed key modules including admin and security dashboards, booking history, user profile management, and report generation. Implemented validations, real-time report logic, and database design for booking and user data. Collaborated on requirement analysis and led team coordination by scheduling meetings and ensuring timely progress.

* **Research Data Collection Platform**

**Tech stack – React, Tailwind CSS**

Developed customizable research data collection, supporting various data types (text, images, audio, video) with offline functionality. Implemented frontend for password recovery, form responses, and data visualization dashboards. Integrated NestJS with MongoDB to improve frontend performance and streamline data management.

* **Airline Reservation System**

**Tech stack – React, MySQL**

Developed a MySQL-based database for B Airways, handling flight scheduling, bookings, and passenger management. Implemented dynamic seat selection, passenger categorization, and ensured data integrity by adhering to ACID properties. Additionally, contributed to front-end design and database development.

* **RPal interpreter**

**Tech stack – Java**

Developed an interpreter for the functional programming language RPAL, incorporating a lexical analyzer, parser, and CSE machine. The interpreter was designed to execute RPAL programs by constructing an abstract syntax tree (AST), standardizing the AST, and evaluating it to produce the correct output.

* **Nano-processor design**

**Tech stack – VHDL, Xilinx Vivado**

Designed a 4-bit Nano-processor in Vivado software with components such as 4-bit Add/Subtract unit, a 3-bit adder, a 3-bit Program Counter (PC), k-way b-bit multiplexers, a Register Bank, a Program ROM, an Instruction Decoder, a 7-Segment Display, and a slow clock. Then implemented the design on a BASYS3 board.

**SKILLS AND KNOWLEDGE**

* Technical fields Digital design, OOP, Data structures and Algorithms, Image Processing
* Programming Python, Java, C++, Xilinx Vivado, HTML, CSS, React, Bootstrap, JavaScript, TypeScript, Spring Boot
* Database MySQL, PostgreSQL
* Tools Git, JIRA, VS Code, Maven, Postman, Swagger, IntelliJ IDEA, DBeaver, Linux command-line utilities(Putty, WinSCP)
* Testing Playwright, JUnit
* Visualization Mermaid.js
* Other skills Problem solving, Documentation, Agile technologies, mobile photography
* Version Control GitLab, GitHub
* Project Management Jira

**ACHIEVEMENTS**

* Dean’s List, Faculty of Engineering, University of Moratuwa: Semester 1 (SGPA 3.85 out of 4)
* First Place - Open Category Mobile PhotographPaws Click 2024
* Certificate of Excellence and second place in MIND Mentoring Program
* Certificate of completion: Communication Skills by SLASSCOM
* Certificate of completion: Presentation Skills by SLASSCOM
* G.C.E A/L (island wide) examination: 3As in physical science stream| Z score = 2.4175 | District rank: 12
* G.C.E O/L (island wide) examination: 9As (including mathematics, science, and English)
* Recipient of MAHAPOLA Scholarship
* BOC NANAJAYA scholarship and Jinnah Scholarship for best performance in G.C.E Advanced Level
* Certificate of appreciation for Amplifier21 (leadership development programme by AIESEC Sri Lanka)

**PROFESSIONAL CERTIFICATES**

* Software Architecture Foundations by LinkedIn
* Certificate on completion for Programming for Beginners by American Corner Matara
* Certificate on completion for Makerspace by American Corner Matara
* Certificate for “Python for Beginners” by University of Moratuwa
* Certificate in Business English by American corner Jaffna
* Distinction pass for Basic 3D Design and Animation by American Corner Jaffna
* Certificate of appreciation for CyberZee’23 quiz competition by University of Kelaniya

**CLUBS & SOCIETIES**

* AIESEC iGT Product Development and Innovation Panelist Colombo South
* Customer Experience (CXP) team member for the term 23.24 AIESEC Colombo South
* Publicity team member of Mora Ventures 6.0 program by IEEE and entrepreneurship society
* IESL Student Member

**RELEVANT ACADEMICS**

* Database Systems A
* Data structures and Algorithms A
* Programming Fundamentals A
* Program Construction A-
* Data Communication and Networking A
* Computer Architecture A-

**VOLUNTEERING WORKS**

* CSE Careers Day 2024 Company Coordinator
* Decoration team & Finance team member for Intreccio’24 (CSE Night)
* Project Blue Waves (Beach cleanup project by AIESEC Sri Lanka)
* Mora Exams 2021 conducted by Tamil Literary Association, University of Moratuwa
* Event handling member for “Monster Mash 2.0” - The Halloween Night, by Rotaract Club

**REFERENCES**

* **Prof. Dulani Meedeniya**

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