NAVEEN KULARATNE

Software Engineer

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EDUCATION

M.Sc. Computer Science, University of Passau, Germany **2018 – 2023**

B.Sc. Software Engineering, Asia Pacific University, Malaysia **2014 – 2017**

WORK EXPERIENCE

Web Design and Content Planning Intern, Thousand Japan Co., Ltd., Tokyo **Sep 2017 – Dec 2017**

- Crafted web applications and iOS interfaces with a keen eye for design and practical functionality. Created striking banners and webpages, adhering to iOS design principles to ensure platform maturity and optimal user experience. Conceptualized and designed the screenshot layout for the Fukroo application, enhancing its visibility and appeal on the App Store.
- Applied responsive design principles to create websites that are visually appealing and accessible on all platforms.
- Revitalized the company's web presence by enhancing website structure: Optimized page layouts for consistent user experience, eliminated superfluous alignments to improve readability, and meticulously proofread typography to ensure professional content presentation.

PROJECTS

Master Thesis/ University of Passau (GitHub)
Automated labeling of plain-text privacy policies via machine learning by analysis of labeling strings for DPV mapping.
Python, Tensorflow, Scikit-learn, NumPy, Matplotlib

- Developed and implemented advanced natural language processing (NLP) algorithms for automatic, high-precision analysis of text-based privacy policy statements.
- Developed and optimized machine learning and deep learning models, including SVM, RF, LR, K-NN, LSTM, CNN, and hybrid model (CNN-LSTM), to analyze a comprehensive labeled dataset of privacy policy statements. Trained the ML and DL models on a labeled corpus of a privacy policy statement and used the predictions to create a GDPR-compliant privacy term.
- Leveraging the power of DL models, the project resulted in a remarkable 22.22% improvement in recall and a 10.71% uplift in the F1 score. In contrast, the ML models achieved a significant 62.07% enhancement in precision scores.

Bachelor Thesis/ Asia Pacific University (GitHub)
Web-based medical consultation system for patients in remote areas.
Node.js, Express.js, MongoDB, HTML/CSS

- Developed a web app connecting medical professionals and remote patients, enabling real-time online consultations and transforming healthcare access.
- Engineered a scalable and efficient RESTful API and utilized the Model-View-Controller (MVC) architectural pattern to streamline data handling and business logic. Leveraged Node.js and Express.js to deliver robust CRUD operations, ensuring a maintainable and organized codebase.
- The system is equipped with intuitive user control settings, streamlining the process of scheduling appointments and fostering post-consultation communication through an intuitive commenting feature.

Inspect-Ricals/ Asia Pacific University (GitHub)
Electrical installation and inspection management system
Java, Oracle DB

- Engineered a Java desktop application for an electrical company specializing in advanced wiring and installation services.
- Implemented an Oracle database to manage customer and user data securely. The database design was carefully crafted to optimize data storage, ensuring efficient querying and data retrieval.
- Driving operational efficiency, the application organizes the management of inspection processes. It also harnesses the power of data analytics to generate insightful reports, empowering both management and clients with critical business intelligence.

POMS/ Asia Pacific University (GitHub)
Purchase Order Management System
C++, SQL

- Designed and executed a Purchase Order Management (POM) system using C++ and object-oriented programming methodologies. This system dramatically enhanced operational efficiency, streamlined purchase order processes, and improved user experience.
- The system encompasses the following functionalities:
  1. User Authentication: Developed a secure login and user registration system to ensure data integrity and security.
  2. Data Management: Devised functionalities for item and supplier entries, enhancing the organization's ability to track and manage inventory.
  3. Sales Tracking: Implemented a daily item-wise sales entry feature, providing insights into sales trends and performance.

4. Purchase Requisition & Order Processing: Created a system to generate and display purchase requisitions, as well as generate and list purchase orders, significantly improving procurement efficiency.

EMMS/ Asia Pacific University (GitHub)
Electricity Meter Management System
Java

- Designed and implemented a robust electricity meter management system in a student accommodation building, enabling precise billing for each tenant based on their individual consumption. The system also allows the building supervisor to control individual apartment meters, enhancing the management's control over electricity usage.
- Engineered and managed a comprehensive system comprising four critical modules: user authentication, meter type configuration, billing operations, and payment management.
- Architected a robust system leveraging key design patterns to optimize code reuse and scalability. Utilized the factory pattern to enhance flexibility, employed the template method pattern for defining a skeleton of an algorithm in a base class, allowing subclasses to redefine certain steps without changing the overall algorithm's structure, and composite pattern for simplifying the handling of complex structures. These design patterns significantly improved the system's modularity and maintainability.

Jukebox/ Asia Pacific University (GitHub)
Jukebox using queue data structures
C++

- Developed a jukebox application leveraging C++ stack and queue data structures to handle music playback functionality.
- Engineered the software meticulously, focusing on efficient data structure design patterns for optimal performance.
- Implemented user interface capabilities allowing users to create custom songs, add them to a playlist, remove songs from the playlist, view the current playlist, and list all created songs.

SKILLS

Programming Languages – Python, Javascript/Node.js, SQL, Bash
Web Development – Express, HTML5/CSS3
Databases – MySQL, MongoDB, Oracle DB
Data Science/ML – Tensorflow, Scikit-learn, Scikit-Multilearn, NLTK, Gensim, Pandas, NumPy, Matplotlib, Jupyter
Other Technologies – Google Cloud Platform, Selenium, Postman, Git, Looker Studio
Languages – English (Fluent), Japanese (Proficient), Sinhala (Fluent), German (Beginner)

OTHERS

Visa Status in Japan – Long-Term Resident
Driving License – Japanese Driving License