

Bookshelf Web Application Proposal

Arun Ezekiel S/O Richard
Cheong Yu Qing, Crystal
Kenneth Goh Jing Wei
Muhammad Sufyan Bin Mohd Jais
Nyan Maw Htun
Ryu Hyunsun
Zhu Yuhao

Team Mawsters
School of Computer Science and Engineering, Nanyang Technological University

Submitted to—
Goh Tong Hai
Chen Yiwen
School of Computer Science and Engineering, Nanyang Technological University

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Executive Summary

Our project aims to address the growing need for a user-friendly and comprehensive solution to book discovery and management. With the proliferation of digital reading platforms and the vast array of available titles, readers often face challenges in navigating the abundance of options and organizing their reading preferences efficiently. To meet this need, our team proposes the development of a book catalogue app that streamlines the process of discovering, exploring, and managing books. By offering robust search capabilities, curated recommendations, and personalized reading lists, our app aims to simplify the book discovery process and enhance the overall reading experience for users. Additionally, the incorporation of advanced features such as machine learning-driven recommendations and user review capabilities further enriches the app's functionality, ensuring relevance and engagement for users of all reading preferences. Through this project, we seek to fulfill the need for a modern and intuitive platform that empowers readers to discover, engage with, and enjoy literature in a digital age.

Statement of Problem

In the digital age, the landscape of reading has expanded dramatically, providing readers with access to an unprecedented volume of literature across various digital platforms. However, this abundance of choice has introduced significant challenges for readers, particularly in discovering new books that align with their interests and managing their reading activities effectively. The core issue stems from the overwhelming number of available titles, making it difficult for users to filter through the noise and find content that resonates with them personally.

Moreover, the lack of a unified system for tracking reading preferences, progress, and recommendations further complicates the reader's journey. Current platforms often operate in silos, offering limited interoperability and personalization, which hinders the development of a cohesive reading experience. This fragmentation leads to a scenario where readers spend more time searching for books than actually reading, dampening their overall engagement with literature.

Additionally, the digital book market's current ecosystem does little to foster a sense of community among readers. Opportunities for meaningful interactions, such as sharing insights or recommendations, are scattered across various social media and specialized forums, lacking integration with the platforms where reading actually takes place. This separation dilutes the potential impact of community-driven discoveries and discussions on a reader's choice of literature.

The culmination of these issues presents a clear problem: the need for a comprehensive, user-friendly solution that not only streamlines the process of discovering and managing books but also leverages community interactions to enrich the reading experience. By addressing these challenges, the proposed book catalogue app seeks to redefine how readers engage with digital literature, making it more accessible, personalized, and enjoyable.

Objectives

This document proposes the design of a book catalogue app with the following specific objectives:

1. To provide an intuitive and engaging user interface that simplifies the book discovery process.
2. To deliver personalised book recommendations using advanced machine learning algorithms.
3. To offer comprehensive features for managing and organising personal reading lists and preferences

Objective 1: User-Friendly Interface

The first objective focuses on developing an interface that caters to users' ease of use, allowing them to navigate through the app effortlessly to find books of interest. This includes the implementation of a simple yet powerful search function and well-organized book categories.

Objective 2: Personalized Recommendations

The second objective aims to harness machine learning to analyze users' reading habits and preferences, thereby offering tailored book suggestions. This personalization enhances user engagement by connecting them with books that match their tastes and interests.

Objective 3: Reading List Management

The third objective addresses the need for a robust system for users to manage their reading lists. Features will include the ability to track reading progress, categorize books into custom lists, and share recommendations with friends.

Technical Approach

The system is divided into four parts: customer needs, target specifications, technologies considered, and system architecture/platform.

Customer Needs

Based on the team's personal experiences as well as secondary research sources online, key findings indicate that:

1. Users need an intuitive user interface that makes it simple for them to browse and locate the books they are interested in.
2. Users need a system to receive book recommendations based on their interests.
3. Users can benefit from a forum where they can interact with other users to discuss different interpretations of a book.

Target Specifications

Based on identified customer needs, we aim to design the app with the following specifications:

1. A clean, user-friendly interface with easy navigation and search functionality.
2. A recommendation system powered by machine learning to provide personalized book suggestions.
3. Community features that allow users to interact and share insights.

Technology Consideration

Our approach incorporates several technologies:

1. Web development frameworks for streamlining development processes.
2. Machine learning algorithms for analysing user data and generating recommendations.
3. Cloud-based infrastructure for data storage and management.

System Architecture/Platform

The system architecture will be based on a microservices model to ensure scalability and flexibility. We plan to use the following:

Table 1: Platform/tools used

Technical Stack/ Technologies	Purpose	Additional Description
ViteJS	Web development framework	Vite is a local development server and used by default by Vue and for React project templates. It has support for TypeScript and JSX. It uses Rollup and esbuild internally for bundling.
ClerkJS	Frontend authentication	ClerkJS is a foundational JavaScript library for building user management and authentication. It enables developers to register, sign in, verify and manage users for an application using highly customizable flows.
MySQL hosted on PlanetScale	Database	MySQL is a relational database management system. PlanetScale is a MySQL-compatible database that brings developers scale, performance, and reliability — without sacrificing developer experience. With PlanetScale, developers get the power of horizontal sharding, non-blocking schema changes, and many more powerful database features without the pain of implementing them.
Python libraries (TBC)	Machine learning for recommendation systems	Python brings an exceptional amount of power and versatility to machine learning environments. The language's simple syntax simplifies data validation and streamlines the scraping, processing, refining, cleaning, arranging and analysing processes.
Google Books API, Open Library API	Provides easy access to book information	Google Books API is a way to search and access that content, as well as to create and view personalization around that content. Open Library Books API provides a programmatic client-side method for querying information of books using Javascript.

Additionally, a backend framework will be considered to run recommendation systems, most likely either Flask or Django as they are Python-based frameworks.

Project Management

The proposed project will be primarily tracked using GitHub's built-in Kanban. The Kanban displays a Gantt chart that provides the proposed timeline. The Gantt chart can be viewed live on the following link:

<https://github.com/orgs/mawsters/projects/3/views/4>

The following sub-section will provide relevant descriptors for each deliverable throughout the project.

Deliverables

Table 2: Deliverables and deadlines

Deliverable	Description	Estimated Completion Date	Final Deadline
Project Proposal	Outlines the issues that need to be resolved and explains the benefits to the customer or the general public.	6/2/2024	8/2/2024
Use Case Model	Shows the features and functionalities included in the proposed system.	6/2/2024	8/2/2024
Software Requirement Specification	Defines requirements, purpose, constraints and features of the system.	19/2/2024	22/2/2024
Quality Plan	Outlines the standards, and practices for quality assurance and control	19/2/2024	22/2/2024
Project Plan	Defines project scheduling and resource allocation.	5/3/2024	7/3/2024
Risk Management	Identifies possible risks during the project development and strategies to manage said risks.	5/3/2024	7/3/2024
Prototype Code	Code for the application.	5/3/2024	7/3/2024
Prototype Documents	Powerpoint slides, video clips or other documents needed for demo.	5/3/2024	7/3/2024
Design Report on Software Maintainability	Outline design strategies that should be taken into account to improve maintainability	19/3/2024	21/3/2024

Configuration Management Plan	Outlines strategies for using version control	19/3/2024	21/3/2024
Change Management Plan	Establishes the project's baseline as well as the roles and processes for change management following baseline.	19/3/2024	21/3/2024
Release Plan	Provides an overview of what is included in the release.	19/3/2024	21/3/2024
Presentation Slides	Slides on project introduction and summary of work of each lab, etc.	30/3/2024	4/4/2024
Test Plan	Documents plan for different tests done on application.	30/3/2024	4/4/2024
Test Cases & Requirements Report	Documents the results of tests and coverage on code.	30/3/2024	4/4/2024
Final Documentation	Upload of code and documentation to SC3040 GitHub.	2/4/2024	4/4/2024

Budget

The table below shows the monthly breakdown of costs for our project. The major outlays such as employee pay and infrastructure expenditures for things like equipment and office rentals, are included in this table.

Table 3: Monthly estimate of costs for project

Item	Supplier	Quantity	Unit Price (\$)	Total (\$)
Project Manager	-	1	10,000	10,000
Software Developer	-	3	5,000	15,000
QA/Release Engineer	-	2	4,500	9,000
Laptop	Acer	4	1,600	6,400
Laptop	Apple	2	2,200	4,400
Office Rental	NTU	1	2,000	2,000
			Total	46,800

Communication and Coordination with Sponsor

Coordination and effective coordination are essential components of our project's lifecycle. We are committed to keeping lines of communication open and quickly responding to the input and changing needs of our stakeholders. For this reason, we value corporate email's formality and ability to act as an official record of project-related information, guaranteeing accountability and clarity.

In addition to email correspondence, we recognise the significance of consistent in-person/virtual meetings. Therefore, we will schedule bi-weekly meetings. These meetings will be extremely important for providing updates on our progress, allowing us to quickly resolve issues that may arise and make the required corrections.

We seek to establish a partnership based on mutual trust and understanding through open communication and cooperative coordination. This will guarantee that our project not only satisfies but surpasses stakeholder expectations, propelling its success to unprecedented levels.

Team Qualifications

Table 4: Qualifications of team members

Name	Experience
Nyan Maw Htun (Project Manager)	Maw Htun, with over a decade of experience, leading our projects with a focus on Agile methodologies, ensuring timely and budget-friendly deliveries.
Muhammad Sufyan (Lead Developer)	Sufyan is an accomplished software engineer with 10 years of experience in full-stack development, he leads our teams with expertise in Javascript, Node.js and React, driving successful web and mobile app development.
Zhu Yu Hao (Frontend Developer)	Yu Hao, with 4 years of frontend development experience, crafts intuitive and visually stunning web interfaces, specialising in HTML5, CSS3, and JavaScript.
Arun Ezekiel (Frontend Developer)	Arun, an experienced frontend developer, contributes expertise in building responsive web interfaces, proficient in HTML5, CSS3, and JavaScript.
Ryu Hyunsun (Backend Developer)	Hyunsun, a versatile backend developer, excels in designing robust server-side solutions using MySQL.
Kenneth Goh (QA Manager)	Kenneth, a seasoned QA manager, leads our quality assurance efforts with expertise in test planning, automation, and quality best practices, ensuring high-quality software products.
Crystal Cheong (Release Manager)	Crystal, our dynamic release manager, oversees smooth and timely software deliveries, minimising risks and ensuring seamless releases for clients and stakeholders.

Conclusion

In conclusion, our proposed book catalogue web application tackles the modern difficulties readers encounter when navigating the enormous digital literary landscape. Our solution aims to transform the way readers interact with and enjoy books in the digital age by personalising recommendations, streamlining book discovery, and encouraging community engagement.

Appendix A: Résumés of Team Members

NYAN Maw Htun | Mobile No.: 98788517 | Email: MNYAN001@e.ntu.edu.sg

LinkedIn: <https://www.linkedin.com/in/nyan-maw-htun-b13889210/>

GitHub: <https://github.com/NyanMaw>

EDUCATION

Nanyang Technological University, Singapore Aug 2021 – May 2025

Bachelor of Engineering (Computer Science)

- Recipient of CN Yang Scholars Programme (CNYSP) with Nanyang Scholarship
- Expected Honours (Distinction), Current CGPA: 4.54/5.00

ACADEMIC PROJECT

Nanyang Technological University, Singapore

Software Engineering – Designing a web application for HDB Resale flat comparisons Jan 2023 – Mar 2023

- Developed a React.js and Django based web application deployed on an AWS cloud server
- Consolidated over 140,000 data points to a PostgreSQL database system and implemented a filtering mechanism
- Demonstrated project functionalities through documentation of over 20 use-case and sequence diagrams

Data Science – Building a Skincare Recommendation System Jan 2022 – Mar 2022

- Conceptualized and expanded on a data science project on Jupyter notebook (Python) to visualize and apply machine learning techniques onto over 1,400 data points
- Implemented a model to detect patterns in multi-dimensioned data and used UMAP to find similar skincare products, narrowing down to 5 recommendation amongst over 1,000 other products

WORK EXPERIENCE

Knowledge Tree Resources Apr 2021 – Aug 2021

Warehouse Associate

- Operated on management of receiving and processing incoming stock and materials, picking and filling orders from stock, overseeing over 2,000 unique product items
- Structured and led management of accounting records, and documenting over 100 sales weekly
- Optimised communication among over 5 staffs through simplification of SOPs by utilizing flow charts

Singapore Police Force Dec 2019 – Dec 2020

Assistant Training Officer (Safety), National Service Police Inspector

- Oversaw update of Training Safety Regulations (TSRs) and ensured proper administration of safe practices through regular audits of 39 police Divisions nation-wide
- Advocated safe training through creation and force-wide dissemination of 4 monthly advisory dashboards
- Facilitated conduct of the Emergency Medical Technician Course, training and re-certifying over 200 officers
- Conducted Safety Officer Course for police officers, managing up to 50 officers per course session

CO-CURRICULAR ACTIVITIES

NTU Outdoor Adventure Club (ODAC) Aug 2021 – Present

Special Projects Officer (SPO)

- Engaged as a sub-committee member from Aug 2021 till May 2022, performing role as secretary; performed administrative roles and collation of details for various activities over 40 training sessions
- Steered club's direction as main-committee member in Aug 2022; supervised and managed a team of like-minded individuals and encourage others to engage in meaningful outdoor activities
- Initiated and captained as a trip leader for 15 individuals to summit Gunung Ledang in Peninsula Malaysia

One-Arena 2021 (Robotics Event) Jun 2016 – Aug 2016

Programmes Committee Member, Facilitator

- Organized and supported a 3-day workshop and competition, introducing coding and robotics to over 100 pre-university students in an interactive and exciting ways
- Innovated with new ideas alongside planning of activities to test problem-solving skills of participants

SKILLS

Languages: Proficient in English, conversant in Chinese and Burmese

Programming languages: JavaScript, Python, Java, C

Web Development Frameworks: HTML, CSS, Frontend (React.js), Backend (Node.js, Django), REST APIs

Other Digital Skills: Jupyter Notebooks, AutoCAD, Autodesk Fusion 360, Microsoft Office

HOBBIES & INTERESTS

Travelling, Hiking and Trekking, Climbing mountains, Web Development and design, Drawing

Hyunsun RYU

Mobile No.: 9614 5306 | Email: hsryu2002@gmail.com | GitHub: <https://github.com/hyunsunryu2020> |
LinkedIn: www.linkedin.com/in/hyunsun-ryu/ | Devpost: <https://devpost.com/hyunsunryu2020>

EDUCATION

Nanyang Technological University, Singapore	Aug 2021 – Dec 2024 (Expected)
Bachelor of Engineering (Computer Science)	
<ul style="list-style-type: none">Expected Honours (Distinction)Achieved Distinction in: Algorithm Design & Analysis, Operating Systems, Linear AlgebraRelevant Modules: Software Engineering, Object Oriented Design & Programming, Introduction to Data Science & Artificial Intelligence, Artificial Intelligence, Introduction to Databases, Multidisciplinary Project, Algorithm Design & Analysis, Data Structures & Algorithms, Operating Systems, Linear Algebra	

ACADEMIC PROJECTS

Nanyang Technological University, Singapore	
Software Engineering Project	
Title: POI.sg Android Mobile App Development	Aug 2022 – Nov 2022
<ul style="list-style-type: none">Built an android mobile app for users in Singapore to login or signup to find nearest sports venue and healthy food eateries in the map, show directions, and post and view reviews and ratings using Flutter in a team of 6Developed UI for Settings Page, Change Password Page, Favourites Page, Change Profile Picture Page, and Contact Us Page; Documented Software Requirements Specifications (SRS) and produced diagrams using Visual Paradigm	

PERSONAL PROJECTS

Individual Project	
WebApp Project using NodeJs, React, HTML, CSS	
Title: Personalised Food Recommendation Website	Dec 2023 – Present
<ul style="list-style-type: none">Produced a webapp that suggests personalised food recommendations considering the user's skill level, preferred cuisine as well as available ingredientsUtilised Figma for website design, cleaned and modified the dataset, allowed users to type in available ingredients, select skill level, and select preferred cuisines, display food recommendations based on the user's inputAllowed users to click and view the detailed recipe and the amount of ingredients needed	

WORK EXPERIENCE

Panasonic R&D Centre Singapore	July 2023 – Dec 2023
Full Stack Engineer Intern	
<ul style="list-style-type: none">Conducted comprehensive testing (unit, system, integration, boundary value, and user acceptance testing) in a Linux environment, and debugged both Java Android app and web app using VueJs and Python for the robot inspection projectProduced an android app that connects with an RFID sensor, allows users to input a work id of the object he/she is trying to locate, display the RSSI value of the object if foundDeveloped a .NET Graphical User Interface that allows users to input a work id, encode it and print the encoded work id into RFID tag data	

CO-CURRICULAR ACTIVITIES

NTU Korean Student Association (KSA)	Jan 2022 – May 2023 (Expected)
Website Manager & Committee Member	
<ul style="list-style-type: none">Managed and revamped NTU KSA website using WordPress, HTML and CSSInitiated to create website forms instead of using google forms to increase website usability and to post engaging content for both sponsors and undergraduates which increased website trafficOrganized and planned events such as Freshmen Orientation, Recess Week Gathering Party, and collaborated with NUS and SMU Korean undergraduates committee to host a bonding event	

SKILLS

Languages: English, Korean
Programming: Python, Java, HTML/CSS, SQL, C, C++, NoSQL, Flutter, Flask, NodeJS, ReactJS, VueJS, Docker
Software Applications and Frameworks: Microsoft Office 2021, Android Studio, Visual Studio Code, GitHub, Eclipse, XCode, Canva, Geolocation API, Firebase API, Google Maps API, YOLOv5, Tesseract OCR, Visual Paradigm, Miro, Jupyter Notebook, MySQL, Figma, Microsoft .NET Framework 4.8
Libraries: Numpy, Pandas, Seaborn, Matplotlib, TextBlob, spaCy, TensorFlow, ROOM, RxJava, Retrofit
Other Skills: Zoom, Google Meet, Microsoft Teams

MUHAMMAD SUFYAN BIN MOHD JAIS

I am an insightful and energetic Computer Science undergraduate at Nanyang Technological University, looking to design technical initiatives and automate solutions for organisational efficiency, productivity and profitability.

EDUCATION

Bachelor of Computer Science Aug 2021 - Dec 2024 (Expected)
Nanyang Technological University

Diploma with Merit in Infocomm & Network Engineering
Temasek Polytechnic Feb 2016 - Apr 2019

- Won the Director List Award in Year 2017 and 2018

ACADEMIC PROJECTS

2nd Year Java Project | NTU Aug 2022 - Nov 2022
Design a cinema booking system console-based application

- Designed an application for cinema staff members and customers which enables online booking and purchasing of movie tickets, listing of movies and sales tracking
- Implemented the MVC architecture into the application

Final Year Project | TP May 2018 - Jun 2018
Develop an air conditioning remote control mobile application

- Developed an Android mobile application that pairs with an IoT device to serve as a universal remote control for all air conditioning models
- Created a function to collect the transmission signals of any aircon remote control to customise the app controls to the user's preferences
- Won a Commendation Award in Academic Year 2018/19

INTERNSHIP/WORK EXPERIENCE

Software Developer Intern Apr 2018 - Aug 2018
Ambi Labs

- Developed a mobile support application in Python-Kivy to capture and test IR signals transmitted from aircon remote controls
- Analysed large amounts of IR signals transmitted from various aircon remote control models to determine the ideal value for normalisation
- Designed an algorithm to normalise distorted IR signals
- Received a testimonial for displaying excellent working attitude

Ground Staff (Part-time) Jun 2017 - Mar 2019
Jetstar Asia Airways

- Preceded the flight operation at the check-in counter, ensuring correct boarding passes are provided
- Delivered exceptional customer service, providing clear and concise information to customer inquiries

CO-CURRICULAR ACTIVITIES

Programmes Officer | NTU Muslim Society Jul 2022 - Dec 2022

- Demonstrated leadership and communication skills by working in a team of 5-8 members to organise various events & workshops in NTU
- Organised talks to raise awareness on mental health issues including ADHD and Depression



+65 9088 3487
sufyanjais1@gmail.com
739, Pasir Ris Dr 10,
#04-01, S(510739)

TECHNICAL SKILLS

- Microsoft Office
- Programming Skills (Java, Python, C, C++, JavaScript, HTML, CSS)
- Layout and Design (Canva)
- Video Editing (CapCut)

PERSONAL SKILLS

- Analytical Skills
- Detail-oriented
- Problem-solving
- Communication Skills
- Rapport-building

LANGUAGES

- English
- Malay
- Arabic

INTERESTS

- Analyzing movies
- Storytelling
- Videography
- Football
- Fishing
- Snorkelling

EDUCATION

Nanyang Technological University, Singapore Aug 2021 – Current

Bachelor of Engineering (Computer Science)

- Year 3 Computer Science AY21/22
- Expected Honours (Merit)

Nanyang Polytechnic, Singapore

Apr 2015 – May 2019

Diploma in Business Informatics

- Outstanding Presentation for Semester 1, Academic Year 2017/2018
- Director's List for Semester 2, Academic Year 2017/2018
- Director's List for Semester 2, Academic Year 2016/2017

INTERNSHIP EXPERIENCE

NCS Pte Ltd

Nov 2018 – Feb 2019

Quality Assurance Department, Intern

- Prepared test specifications with functional requirement document to guarantee system is adhering to functional specification rules
- Implemented test case design with TOSCA automation tool for manual and automation testing

WORK EXPERIENCE

National Service

Aug 2019 – Jun 2021

Naval Diving Unit, Platoon Commander, and Deputy Operations Officer

- Led a team of 60 divers in executing high-stakes underwater operations, including reconnaissance and demolition missions
- Oversaw training and development of NSFs to maintain optimal equipment and preparedness for operational readiness

The Pine Garden

Oct 2017 – Oct 2019

Sales and Operations Assistant

- Provided customer service by addressing cake and pastry needs to meet customer satisfaction
- Upheld shop cleanliness and organisation by restocking inventory and completing end-of-day closing tasks.

WORK EXPERIENCE

Nutrition Tracker and Recipe App

Jan 2023 - May 2023

- Developed a React-based recipe application with Firebase real-time database and API

Cinema Booking System

Sep 2022 - Oct 2022

- Developed a Java-based cinema booking system with txt file as local database

Course Feedback System

Apr 2018 – Jun 2019

- Revamped Nanyang Polytechnic's course feedback system, benefitting 14,000 students
- Developed innovative features to improve user experience and boost response rates

CO-CURRICULAR ACTIVITIES

Hall of Residence 12, Adventure Time

Jul 2022 – Jul 2023

Chairperson

- Led a team of 20 members in planning and carrying out an exciting and engaging event for hall residents
- Spearheaded fundraising efforts to assure a successful event

SKILLS

Languages: Proficient in English and Chinese

Digital Skills: Microsoft Office, Python, C, C#, Java, JavaScript, React, HTML, CSS, SQL

HOBBIES & INTERESTS

Sports (Basketball, Fitness), Playing musical instruments (Guitar)

Crystal Cheong Yu Qing

Software Engineer-in-Training

+65 8687 8895

crystalcheong.com

github.com/crystalcheong

work@crystalcheong.com

linkedin.com/in/crystalcheong

SUMMARY

Aspiring software engineer with a focus on solving real-world problems through software solutions. Currently studying computer science with a strong interest in developing websites, applications, and other digital experiences. Eager to leverage technical skills and creative problem-solving skills in a professional setting.

EXPERIENCE

Software Engineer (Frontend)

Switchco Labs

May 2022 – August 2023

- Collaborated with cross-functional teams to design and integrate new frontend features and functionalities
- Utilised expertise in React, Redux, and React Saga to develop and deploy new frontend functionalities, improving system efficiency and enhancing user engagement.
- Maintained and updated existing user-facing features, ensuring efficient and effective operation of web applications.

Software Tester

NCS Group

March 2021 – July 2021

- Conducted requirement analysis for test scenarios, ensuring software met all client and end-user needs.
- Executed comprehensive test plans and cases to identify defects and ensure software functionality met quality standards.
- Collaborated closely with development and business teams to understand application requirements and provide comprehensive test coverage for all features.
- Trained and supported team members on testing procedures, tools, and techniques, leading to a more efficient and effective testing process.
- Designed and maintained testing training materials to ensure consistent and accurate knowledge transfer to new team members.

AR/VR Developer Intern

Defence Science & Technology Agency (DSTA)

September 2020 – February 2021

- Conducted research and analysis of emerging AR/VR technologies to identify new opportunities for innovation and improvement
- Engineered interactive AR/VR applications using Unity, creating engaging training experiences for end-users.
- Utilised industry-standard debugging and testing tools to diagnose, document, and fix bugs reported by testers.

Arun Ezekiel | Mobile No.: 86864628 | Email: arunezekiel98@gmail.com

EDUCATION

Nanyang Technological University, Singapore
Bachelor of Engineering

Aug 2021 - Present

- Expected Graduation in June 2025

PROJECTS

INTUITION V9.0

Feb 2023 - Feb 2023

- Collaborated with Merck, Sharp & Dohme (MSD) to create AI tool to convert research articles into easy to consume articles in 24 Hours
- Conceptualized application using text to image AI and natural language processing
- Created an AI-assisted application to convert thousand-word research articles into simple infographics for easier consumption

WORK EXPERIENCE

Infinite Computer Solutions

Nov 2020 - Jun 2021

Deskside Engineer

- Provided onsite support to over hundred users in NUH with good customer satisfaction
- Maintained stability of over 20 different types of devices in NUH
- Installed required software and security patches in accordance with Integrated Health Information Systems (IHIS)

INTERNSHIP EXPERIENCE

Royal Melbourne Institute of Technology (RMIT)

Jun 2017 - Jul 2017

2D Game Developer, Intern

- Researched closely with Professors from RMIT and fellow interns for rehabilitation for patients with Traumatic Brain Injuries
- Conceptualized a touch screen video game for motor skills rehabilitation
- Developed 2D video game with 20 levels for Tablets and mobile phones using Unity3D

CO-CURRICULAR ACTIVITIES

School of Interactive Digital Media (SIDM) Club

Feb 2015 - Jul 2017

SIDM Ambassador

- Hosting: Hosted a total of six events, ensuring seamless execution, engaging interactions, and a positive attendee experience.
- Assisting: Coordinated and handled logistics of SIDM Open House Events for 2016 and 2017.
- Ushering: Assisted with ushering responsibilities during Singapore Games Creation Competition, communicating instructions and acted as a friendly and approachable point of contact for event attendees.

SKILLS

Languages: Proficient in English

Web Programming Languages: HTML, CSS, JavaScript

Programming Languages: Java, C#, C++, Python, Kotlin

HOBBIES & INTERESTS

Exploring new destinations, cultures, and flavors through travelling, delving into virtual adventures and challenges through gaming.

EDUCATION

Nanyang Technological University, Singapore Aug 2022 - Present

- Bachelor of Engineering, CGPA: 4.68/5.00
- Accepted into Accelerated Bachelor Programme
 - Expected Honours (First Class), Current

Hwa Chong Institution, IP Jan 2013 - Dec 2019

- Integrated Programme (IP)
- Finished GCE A-Level

ACADEMIC PROJECT

Nanyang Technological University Aug 2023 - Present

Object-Oriented Programming Project - Design a Camp Application Management System

- Developed a Command Line Interface Java Program with a team of 5 people.
- Implemented features for multiple users to access and manage camp information within 2 weeks.
- Managed project and team allocation of roles for report writing, documentation, code implementation and UML design.

Nanyang Technological University Aug 2023 - Present

Software Engineering Project - Design an application to exploit publicly available data

- Created an Android mobile application employing Flutter framework with a team of 4 people.
- Incorporated 3 main features on map routing, train service alerts, and notification management.
- Led mobile application user interface design and Python Flask for back-end development.

Nanyang Technological University Jan 2023 - May 2023

Data Science Project - Design a Natural Language Processing Model to predict disasters with tweets

- Accomplished model implementation, documentation and presentation with a team of 3 people.
- Analysed accuracy of 3 text embedding models and 2 types of models using multiple python libraries such as scikit-learn and transformers.
- Applied data science skills such as text mining, feature extraction and visualization, and hyperparameter tuning, improving model performance by 10%.

WORK EXPERIENCE

National Service, MINDEF Jan 2020 - Nov 2021

Ground Technician and Clerk

- Completed maintenance for multiple vehicle types such as OUV, 5 Ton, and LARC V and awarded WSQ Employability Skills - WPL Skills.
- Managed inventory logistics and overseeing stock supplies for over 20 maintenance operations yearly.
- Performed data entry for essential activities such as man hours, IPPT, and oil delivery using Microsoft Excel.

CO-CURRICULAR ACTIVITIES

SCSE IT Subcommittee Nov 2023 - Present

Member

- Collaborated with 2 Software Developers on accomplishing a functional backend leveraging PayloadCMS for CRUD operations in MongoDB.
- Constructed a friendly Content Management System for the Publicity Subcommittee to write events onto the main website.

Library Club Jan 2018 - Dec 2019

Publicity Member

- Designed at least 3 posters with Canva for content creation on social media.
- Collated at least 100 hours in library services and engaged with the community by donating unused library books.

Weiqi Club Jan 2013 - Dec 2017

Member

- Achieved top 5 in over 2 major tournaments yearly and accredited with a rank of 5 Dan.

SKILLS

Languages: Proficient in English and Chinese

Programming Languages