

SOWMIYA MEENA SIVA SUBRAMANIAN

Singapore

+65 8661 2276

cssowmi1@gmail.com

LinkedIn: [linkedin.com/in/sowmiya](https://www.linkedin.com/in/sowmiya)

Website: <https://sowmiyameena.github.io/>

PROFESSIONAL SUMMARY

Accomplished software developer and technology researcher with 8+ years of experience in full-stack development, including front-end, back-end, and mobile app development. Experienced in building scalable applications and leveraging modern frameworks and tools. Adept at collaborating with cross-functional teams to deliver high-quality solutions and drive project success.

WORK EXPERIENCE

Research Engineer | Nanyang Technological University, Singapore

Oct 2018 - Present

Project 1: UCHEsk web app development

HTML, CSS, .NET, SQL, Python, and jQuery

- Led the design and development of the "Uberise Coaches for Health Services and Knowledge (UCHEsk)" system using HTML, CSS and jQuery, resulting in a 40% increase in efficiency for health coaching services.
- Implemented a User Management Module using .Net, SQL that streamlined patient and health coach enrolment, improving enrolment process speed by 50%.
- Developed features to support virtual health coaching, enabling real-time health status monitoring and feedback recording, improving remote patient engagement by 28%.
- Analysed coach feedback and provided recommendations through visualizations using Python, improving coaching strategies and patient outcomes by 32%.

Project 2: SGWalk mobile app development

Flutter, Firebase, python, machine learning models

- Developed the SGWALK app using Flutter and Firebase, focusing on creating an intuitive user interface and enhancing user experience for older adults, resulting in a 90% user satisfaction rate.
- Integrated Bluetooth motion sensors to capture physical activity data with 100% accuracy, leading to a 28% increase in user engagement in physical activities.
- Utilized serverless architecture on GCP, storing data in Firebase and analyzing it with BigQuery. Employed quantitative analysis techniques using Python to evaluate changes in physical activity, nutrition intake, and mental well-being.
- Utilized Python for backend service and machine learning models, including Bayesian networks, Random Forest, and SVM for health status prediction, resulting in a 24% increase in prediction accuracy and a significant reduction in false positives.

Project 3: Data Anonymization Project

Python, Deep learning Algorithms

- Anonymized dataset for a private taxi company data using both AI and traditional anonymization techniques implemented on python, achieving a 94.5% success rate in preserving data utility while ensuring privacy. Notably, synthetic data contained 1.40% fewer identical records compared to the original data, indicating lower re-identification risk.
- Implemented AI methods like TGAN, CTGAN and SynthPop, resulting in a 30% improvement in pattern preservation over traditional methods.
- Utilized traditional techniques including Geographic Masking and Gaussian Displacement, optimizing location data anonymization with a 53% enhancement in privacy protection.

Project: Client Central web app for BB&T Bank

ASP.Net, C#, JavaScript and SQL

➤

Developed and enhanced banking application using ASP.Net, C#, and WPF.

➤

Managed end-to-end operations for "Client Central" project, improving account opening efficiency by 25%.

➤

Conducted rigorous quality assurance through unit test, code review, and impact analysis.

➤

Implemented Role-Based Access Control (RBAC) using ASP.NET Identity to ensure only authorized personnel could access sensitive features and data, resulting in a 30% reduction in security incidents.

➤

Collaborated with cross-functional teams, including product managers, and QA engineers, to deliver high-quality features and meet project deadlines, enhancing overall project efficiency.

TECHNICAL SKILLS

Front-End	HTML, CSS, JavaScript, jQuery, Flutter
Back-End	Python (flask), ASP.NET, C#
Databases	MySQL, SQL Server, Firebase
Web Technologies	RESTful API Integration, Firebase, JWT Authentication
Tools and Framework	Git, TFS, Visual Studio Code, Android Studio, Xcode
Data Analysis/ML	Pandas, NumPy, Scikit-learn Random Forest, Support Vector Machines, Naive Bayes, Logistic Regression
AI Algorithms	TGAN and SynthPop
Data Visualization	Matplotlib, Seaborn, amCharts
Cloud Services	Firebase, Google cloud platform
Design Patterns	MVC, 3-Tier Architecture

EDUCATION

Bachelor of Technology in Information Technology (First Class), Anna University, India

2010–2014

CERTIFICATIONS

Python for Data Science and Machine Learning Bootcamp, Udemy

Oct 2023

PUBLICATIONS

Enhancing Older Adults Physical Activity and Well-being: Design and Implementation of Digital Health App (SingaporeWALK) for Active Ageing

S. S. S. Meena, H. Bao, S. G. S. Pai, N. Singh, K. Z. Tan, B. T. P. Pham, Y. L. Theng, & E. W. J. Lee

Under review at JMIR (2nd Round Review).

Evaluation of Supporting Tools for Health Coaches Providing Nutrition and Exercise Coaching to Older Adults in Singapore

Y. Cao, S. S. S. Meena, M. Erdt, M. T. M. A. Mohamed Riaz, J. Yi, & Y. L. Theng

Presented at the 56th Hawaii International Conference on System Sciences (HICSS 2023).

NOTABLE ACHEIVEMENTS

1st place in "IDEATHON" event at Cognizant for "Customer Sentiment Analysis" using IBM Watson tool NLP (Natural Language Processing).