

SANUTH KALHAN WANNIARACHCHI

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Portfolio: https://sanuthkalhan.me

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Profile

Motivated Software Engineering undergraduate with a strong focus on Software Engineering, Machine Learning, and AI driven system design. Skilled in developing scalable software and data pipelines using .NET Core, Angular, SQL, and Python. Experienced in building data-intensive AI models for geospatial and satellite based decision support systems. Skilled in developing scalable fintech solutions using .NET and modern web technologies. Passionate about solving real-world problems through innovation, clean code, and efficient data architecture.

Education

BSc (Hons) in Software Engineering - University of Colombo School of Computing (2022 – 2026)

GPA: 3.4/4.0 (current)

GCE Advanced Level - Ananda College, Colombo (2020)

Physical Science – AAB

Experience

Software Engineer Intern - Scienter Technologies (Pte) Ltd | Nov 2024 – May 2025

- Contributed to the development of a large-scale eFinancial banking system, focusing on secure, modular, and scalable architecture.
- Developed FinTech modules using .NET Core, Angular, and PrimeNG within a Microfrontend environment.
- Built responsive and accessible banking interfaces using Angular Material.
- Collaborated with teams using Azure DevOps Server for CI/CD pipelines, version control, and code reviews.
- Designed and optimized SQL Server databases to ensure data consistency and integrity.
- Worked within Microsoft's technology stack, ensuring adherence to industry-grade security and performance.

Projects

AgroGate - Final Year Project (May 2025 - Present)

- Developing a no-code, AI-powered decision support platform for precision agriculture using satellite data.
- Integrated participatory UI design with microservice architecture and middleware that supports a no-code UI, connecting satellite data, AI models, and user inputs to handle AI analysis and simulations, empowering users with minimal technical expertise.
- Designed and trained models for SAR-to-NDVI translation for cloud removal and integrated multi-GPU training pipelines on Kaggle.
- Built custom TIFF datasets (available in HuggingFace) with GCD-Rice masks, data loaders, and multi-GPU training pipelines on Kaggle. Also developed a paddy simulation dataset with the WOFOST scientific simulator, containing nearly 570,000 records.
- Working on a Temporal Fusion Transformer (TFT) model to simulate crop irrigation patterns.

NoteMate - AI Note-Taking App

- Developed an AI-powered note-taking mobile app with React Native (Expo), Flask, and Spring Boot microservices.
- Implemented custom note-writing tools and a microservice architecture that supports continuous record chunking and upload, connecting speech-to-text (STT) models and BERT summarization models in a seamless pipeline.
- Managed data processing and integration of MySQL, SQLite, MongoDB, and Firebase for handling user data.

- Used Eureka Server, AWS S3 buckets, Docker, Kubernetes, and CI/CD pipelines for cloud deployment, containerization, and orchestration.
- Implemented PayHere payment gateway for seamless online payments and transactions.

Medico-Legal Autopsy Management System - District General Hospital Matara

- Developed a Secure RBAC system for managing autopsy forms, user access, and log management.
- Built using Next.js, TypeScript, Prisma, and MySQL with a focus on security and data integrity.
- Implemented an automated credential engine for generating unique, high-entropy temporary passwords.
- Optimized administrative workflows with fuzzy search, filtering, and custom pagination for efficient management of credentials.

SeaThrough - Online Tour Booking Platform

- Developed a full-stack MERN (MongoDB, Express, React, Node.js) web app for booking and management.
- Designed responsive UI using Material-UI and implemented secure RESTful APIs.

Accommodate - Online Hostel Finding and Management System

- Developed a hostel-finding application with HTML, CSS, JavaScript frontend.
- Built PHP & MySQL backend with location-based search and advanced filtering.
- Implemented owner/admin dashboards and location-based ads.

Research Publications

S. Wanniarachchi, K. Weerakoon, A. Pathirana, E. Hettiarachchi,

Cloud-Resilient NDVI Estimation for Smallholder Paddy Fields from Single-Date Sentinel-1 SAR Using an Enhanced U-Net++.

ICARC 2026 – Proceedings of the IEEE International Conference on Advanced Research in Computing. *(In Proceedings)*

Technical Skills

Programming: Python, Java, C, C++, C# , R, JavaScript, TypeScript, SQL, PHP

Frameworks: .NET Core, Angular, Spring Boot, Flask, React, TensorFlow, PyTorch, React Native, NextJS, Prisma

Data & Cloud: SQL Server, Docker, MongoDB, Azure DevOps, Firebase, AWS, Kaggle, Google Colab

AI/ML Tools: U-Net++, ResNet34, Transformers (NLP), spaCy Embeddings, Scikit-learn, NumPy, Pandas, OpenCV, PyTorch Segmentation Models

Version Control: GitHub, GitLab, Hugging Face

Design & UI: Angular Material, PrimeNG, Figma

Database Management: SQL, MySQL, NoSQL, SQLite, Firebase

Software Development: CI/CD, Microservices, RESTful APIs

Data Visualization: Matplotlib

Certificates

Supervised Machine Learning: Regression and Classification - DeepLearning.AI

Soft Skills

Teamwork and Collaboration

Communication

Logical Thinking

Problem Solving

Adaptability and Learning

Reference

References available upon request.