Sesugh Nder

Software Engineer

Hong Kong | hello@sesughnder.com | github.com/ndersam

Software engineer with experience across mobile applications, backend services, connected devices, and computer vision. Built the software ecosystem for an in-house ECG device at Comfit, co-founded a surgical-visualization startup, and currently develop computer-vision systems at EDGE Football AI.

EXPERIENCE

Computer Vision Engineer | EDGE Football AI

Remote | 2026 - Present

Develop computer-vision systems for analysing football video, focusing on player tracking and automatic event detection.

- Develop multi-object tracking pipelines combining player detection, appearance-based re-identification, and camera-motion compensation to maintain player identities through crossings, occlusions, and re-entry.
- Train and fine-tune player-detection and re-identification models, addressing small players, overlapping detections, and similar team kits.
- Adapt and train temporal action-spotting models to identify and timestamp football actions, including passes, shots, and ball receptions.
- Build dataset preparation and annotation pipelines using real footage, model-generated labels, and synthetic data.
- Develop evaluation and debugging tools to measure identity consistency, tracking coverage, and event timing, and investigate how individual components affect overall system performance.

Software Engineer | Comfit Healthcare Devices

Hong Kong / Remote | 2020 - 2025

Developed software supporting an in-house ECG device across device development, patient monitoring, and factory testing.

- Built an internal Kotlin Android app for validating the ECG device, implementing BLE communication, signal inspection, and C++ processing for signal filtering and quality checks.
- Contributed C firmware on Nordic nRF hardware, implementing persistent storage of device information, battery monitoring, and LED status indicators.
- Adapted the validation app into the first Kotlin patient-monitoring client, then ported it to Flutter for cross-platform use. The platform reached early pilots with hospitals and elderly-care providers in China, Macau, and Hong Kong.
- Developed the remote patient-monitoring backend in ASP.NET Core, implementing patient-vital and ECG ingestion using domain-driven design, event-sourced aggregates, and CQRS.
- Deployed an ECG classification model trained by a collaborator as a Django/PyTorch service and integrated it into monitoring workflows. Implemented medication-recommendation logic and clinician notifications.
- Automated infrastructure provisioning on Alibaba Cloud with Pulumi and built Bitbucket Pipelines workflows to build and deploy containerized web applications using Docker.
- Independently built an Avalonia Windows application and supporting backend used by factory technicians to test ECG devices. The system controlled a signal generator, evaluated recorded signals, stored test results, assigned device identifiers, and printed labels.

Co-Founder & Software Engineer | Braillic

Hong Kong / Part-time | 2021 - 2023

Co-founded a startup developing a mixed-reality prototype for surgical visualization, intended to display scan-derived anatomy aligned with the patient.

- Built HoloLens and desktop demo applications supporting automatic 3D alignment and manual alignment through user-selected matching points.
- Developed a backend for scan uploads and anatomical reconstruction, integrating a pretrained segmentation model to extract structures such as bone and brain regions.
- Collected CT scans alongside surface scans captured with HoloLens and a higher-quality 3D scanner, and built desktop tools for annotating corresponding anatomical landmarks.
- Adapted and trained 3D landmark-localization models and experimented with point-cloud registration methods to align CT-derived reconstructions with surface scans.

EARLIER EXPERIENCE

Android Developer Intern, Comfit | Jul - Aug 2019
Android Developer Intern, Pokeguide | Jul - Aug 2018

TECHNICAL SKILLS

Application & device development: Kotlin, Java, C/C++, Dart, Android SDK, Flutter, Avalonia, Bluetooth Low Energy (BLE), Nordic nRF
Backend & cloud: C#, Python, ASP.NET Core, Django, FastAPI, PostgreSQL, Redis, RabbitMQ, Docker, Pulumi, Bitbucket Pipelines, Alibaba Cloud, Azure
Computer vision & machine learning: PyTorch, object detection, multi-object tracking, re-identification, temporal action spotting, 3D registration, point-cloud processing, bird's-eye-view perception

EDUCATION & RESEARCH

MSc, Intelligent Adaptive Systems | University of Hamburg

Hamburg | Oct 2023 - Mar 2026

Thesis: Monocular Bird's-Eye View Height Mapping for Trailer Volume Estimation

BEng, Computer and Data Engineering | City University of Hong Kong

Hong Kong | Sep 2016 - Aug 2020

Thesis: Image-to-Image Translation for Hairstyle Manipulation.

SELECTED PROJECTS

Amebo | Android client for Nairaland

github.com/ndersam/amebo

- Built and shipped a Kotlin Android client for a platform without a public API, using HTML parsing to provide a native mobile experience.
- Implemented multi-account support, reading and creating posts, messaging, previews, and image uploads using a modular architecture, dependency injection, and coroutines.

PUBLICATION

Hedna, M. R., & Nder, S. S. (2025). **Adversarial Patch Attacks on Vision-Based Cargo Occupancy Estimation via Differentiable 3D Simulation.** Preprint. arXiv:2511.19254.