

Dinali Assylbek

Dinali.assylbek.2003@gmail.com | (385) 222-1414 | linkedin.com/in/dinaliassylbek

EXPERIENCE

Suntra MedTech Solutions – *Software Engineer* – Bedford, NH Aug 2025 – Present

- Developed and debugged production C++ applications across Linux and Windows, implementing modular device features, asynchronous hardware communication, and unit and integration tests to improve reliability across application and operating-system boundaries.
- Built and maintained cloud-connected device backend services supporting secure telemetry, OTA versioning, remote device management, and operational monitoring using AWS (EC2, S3, Lambda, CloudHSM).
- Owned engineering infrastructure including CI/CD (CircleCI, Azure) pipelines, Docker development envs, Torizon SDKs, deployment automation, and internal tooling to improve developer productivity and release reliability.

FPGA Neural Network Inference (Dr. Tajalli Lab) – *Research Assistant* Jan 2025 – Aug 2025

- Developed a Python/C ML evaluation pipeline for weight perturbation, data transfer, inference, and results collection across 50 iterations of 100-image MNIST batches, measuring accuracy degradation and identifying a 5.5-percentage-point fixed- versus floating-point baseline gap.
- Built a reusable TensorFlow-to-FPGA deployment and profiling framework using HLS4ML and Vivado, evaluating networks up to 10,497 parameters across reuse factors and precision settings; identified DSP utilization as the primary scalability bottleneck and reduced usage from 88 blocks to 3 (96.6%).

Sanchez Research Lab – *Research Assistant* Aug 2023 – Dec 2024

- Reengineered a MATLAB-based electrical impedance tomography pipeline as an object-oriented, multithreaded Python application for noninvasive arterial imaging, enabling concurrent acquisition, data processing, visualization, and storage while increasing reconstruction throughput from 4.2 to 50 FPS, a 12× improvement.
- Engineered a modular, asynchronous Flutter mobile application with a Firebase cloud backend that collected survey responses, images, and geolocation data from 800+ study participants, integrating Authentication, Firestore, and Storage with input validation, upload timeouts, and event logging.

University IT Department – *Software Engineer Intern* Jan 2023 – Sep 2023

- Built a containerized monitoring platform using Python, FastAPI, SQL, and Docker, developing RESTful APIs and automated pipelines to collect and expose Linux virtual-machine health metrics for real-time observability.

PUBLICATIONS

- Ha, G.-B., Assylbek, D., et al. “SRL-EII: A Modular and Efficient Numerical Solver for Electrical Impedance Imaging,” IEEE ISBI, 2025. doi:10.1109/ISBI60581.2025.10981051
- Ha, G.-B., Assylbek, D., et al. “A Wearable Electrical Hemodynamic Imaging Ring,” arXiv preprint arXiv:2604.14494, 2026. doi:10.48550/arXiv.2604.14494

PROJECTS

Personal Website – *Next.js, React, Typescript, Tailwind CSS* Present

- Building a portfolio website showcasing projects, publications, and education across desktop and mobile devices.

AI Agent Evaluation – *Python, Daytona, Docent* Apr 2026

- Evaluated three agentic LLMs across 120 TerminalBench 2.1 runs using Python, Daytona sandboxes, and Docent, tracking completion, runtime, API cost, execution trajectories, and failure modes.

AI Style Transfer Platform – *Python, PyTorch, Flask, RestAPIs, Firebase* Nov 2026

- Built an end-to-end AI style-transfer application by training three CycleGAN models in PyTorch and exposing inference through Flask REST APIs, integrating image-processing pipelines with a Flutter frontend.

EDUCATION

University of Utah Salt Lake City, UT

Bachelor of Science: Computer Engineering; GPA: 3.94

Jan 2023 – Aug 2025

TECHNICAL SKILLS

Python • C++ • Linux • RESTful APIs • Next.js • SQL • Powershell & Bash • Concurrent & Asynchronous Systems • Unit & Integration Testing • Docker • AWS • Azure • CI/CD • Model Evaluation • Algorithms & Data Structures • Tensorflow