

Bence Jordan Dankó

bence.danko@sjsu.edu • <https://bencejdanko.github.io> • <https://github.com/bencejdanko>

EDUCATION

San Jose State University <i>M.Sc. in Applied Data Intelligence</i>	2024 – Present San Jose, USA
San Jose State University <i>B.Sc. in Computer Science</i>	2020 – 2024 San Jose, USA

PROJECTS

Edge Vision Smart Elevators: Privacy-Preserving Headcount Analysis

<https://github.com/bencejdanko/m55m1-ElevatorCounting-YOLOv8n>

- Conducting applied research for Nuvoton's NuMicro M55M1 microcontroller, architecting a confined person-recognition pipeline achieving 15 FPS within 1.5MB SRAM constraints.
- Engineered an INT8-quantized YOLOv8n pipeline using the Vera compiler and Arm Ethos-U55 NPU.
- Curated a specialized dataset of 13,000+ images from Roboflow, and distributed for common public use on Huggingface.
- Assembled a proprietary data collection setup using a Raspberry Pi Zero W and 160° FOV camera for real-world confined elevator environments.
- Developed custom firmware using CMSIS-CSolution to satisfy business presentation requirements.
- Collaborated with Nuvoton hardware engineers to validate system performance for a live demonstration at the Sensors Converge conference.

Mobilint MLA100 NPU Computer Vision Applications

<https://github.com/bencejdanko/imagenet-classification-mobilint-mla-100>

- Worked with Mobilint hardware and compiler engineers to evaluate computer vision applications for the MLA100 NPU.
- Developed and optimized a real-time image restoration pipeline for the NPU, achieving <6ms latencies for 256x256 images.
- Replaced a high-latency ResNet baseline (400ms+) with a custom 0.2M parameter Convolutional Network by optimizing kernel launches and restricting feature maps to 64 to minimize hardware-induced latency.
- Orchestrated large-scale training and data processing jobs using modal, scaling cloud GPU resources to conduct progressive training cycles with Cosine Annealing and mixed precision.
- Optimized PSNR improvement through iterative checkpoint-based training and rigorous hardware-aware model profiling.
- Evaluated and compiled ImageNet classification models for the MLA100, comparing inference throughput against Intel AI Boost and achieving 2.7x performance gains.

Full Stack RBAC Portal and Data Migration for Inclusive World

https://github.com/bencejdanko/inclusive_world_portal

- Led a team of 8 undergraduate developers as the Full Stack Lead for Inclusive World, a non-profit dedicated to empowering people with disabilities.
- Architected and implemented a robust Role-Based Access Control (RBAC) management portal for directors to streamline volunteer and member coordination.
- Orchestrated a critical migration from legacy Google Sheets-based automations to a professional-grade tech stack, iterating in designs from React/Supabase to Django and PostgreSQL.
- Engineered comprehensive data models to handle complex member relationships, replacing manual spreadsheet workflows with automated Python-based backend logic.
- Managed the end-to-end development lifecycle over 8 months, ensuring code quality, team synchronization, and goal alignment with organization directors.