

Ijtihed Kilani

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EDUCATION

Aalto University

Bachelor of Science in Computational Engineering

Minor in Advanced Computer Science

Exp. Jun 2027

EXPERIENCE

Research Assistant

Aalto University, Computational Behavior Lab

Nov 2025 – Present

Esopo, Finland

- Recreated NeurIPS 2024 CooHOI Physical AI baselines **inside VR** using **GPU-parallel simulation** (PyTorch/CUDA).
- Built a Unity OpenXR ↔ Isaac Gym bridge to stream real-time VR motion for **human-in-the-loop** policy testing and debugging.

Founding Software Engineer

Kova Labs

Nov 2025 – Feb 2026

Helsinki, Finland

- #1 hire leading simulation and digital twin at a Lifeline Ventures-backed drone autonomy startup.
- Built a TypeScript drone physics simulator sustaining **80%+ real-time factor** with tight update loops.
- Shipped a real-time sensor/vehicle interface, cutting autonomy integration **2 days → 3 hours**.

Teaching Assistant

Aalto University, Department of Computer Science

Sep 2025 – Jan 2026

Esopo, Finland

Software Engineer

Sensofusion

Mar 2025 – Nov 2025

Helsinki, Finland

- Joined at 17 and led simulation engineering for the fastest growing counter-UAS startup in the EU.
- Shipped an end-to-end drone simulator (TypeScript + Three.js, Python/C++ backend) with optimized 3D assets.
- Cut cold start **15 s → 2.5 s** and improved **FPS 30 → 60** via lazy loading and lower per-frame allocations.

PROJECTS

Self-Hosted Home Server (Lab) | Debian, KVM, CUDA, Ollama, Tailscale, SSH

- Deployed a systemd-managed GPU LLM service with VPN-secured remote access (Tailscale + SSH) for 24/7 use.

Agentic AI Clinical Scribe | FastAPI, SQLite, OpenAI API

- Built a streaming transcription backend (FastAPI + WebSockets) with **<2s** end-to-end latency at **HackMIT '25**.
- Implemented a **3-agent** pipeline producing SOAP notes in **<3s** with **95%** accuracy.

The Yappin' Spirit (Real-Time Emotion Game) | Python, Flask, OpenCV, Unity

- Streamed emotion inference to Unity at **60 FPS** with **<50ms** end-to-end latency (48-hour hackathon).

Physical Race-Car Suspension Bracket | Python, Ansys

- Automated an FEA + topology-optimization workflow and converted solver output into a manufacturable model for the race car.
- Reduced weight **25%** while meeting stiffness targets, validated on-car.

AWARDS AND ACHIEVEMENTS

World Robotics Olympiad ('22 & '23), 2x Silver + 1x Bronze (#2, #4 & #5 / 2,500+)

2023

Built a custom PCB used in an AI-powered mobile health-assistant robot.

Co-founder, Null Fellows (Fellowship)

Present

Led cohort operations for a builder fellowship placing talent into hyper-scaling European startups.

TECHNICAL SKILLS

Languages: Python, C++, TypeScript/JavaScript

Tools/Tech: PyTorch, CUDA, Linux, Docker, GitHub Actions, WebSockets, FastAPI, SQL (PostgreSQL/SQLite), Flask, Node.js, AWS, Google Cloud, ROS2, PX4, Unity, OpenCV, Three.js, Ansys