

Ijtihed Kilani

portfolio: ijtihed.com

+358 41 740 8918 | ijtihed.kilani@aalto.fi | linkedin.com/in/ijtihed | github.com/Ijtihed

EDUCATION

ETH Zürich

Graduate Exchange in Computer Science

Fall 2026

Aalto University

Master of Science in Mathematics

Exp. Jun 2027

Minor in Theoretical Computer Science

Bachelor of Science in Computational Engineering

Exp. Jun 2026

EXPERIENCE

Research Assistant

Nov 2025 – Present

Aalto University, Computational Behavior Lab

Espoo, 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

Nov 2025 – Feb 2026

Kova Labs

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

Sep 2025 – Jan 2026

Aalto University, Department of Computer Science

Espoo, Finland

Software Engineer

Mar 2025 – Nov 2025

Sensofusion

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