

# Ijtihed Kilani

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## EDUCATION

### ETH Zürich

Graduate Exchange in Computer Science

Fall 2027

### 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 '24 CoHoI **Physical AI** baselines inside VR using **GPU-parallel simulation**.
- Built a **reproducible pipeline** for embodied-agent research, extracting and normalizing physics parameters and system timing.

### 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/C++** 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 to 2.5 s** and improved **FPS 30 to 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 reduced weight **25%** while meeting stiffness targets, validated on-car.

### SILTA ([siltahouse.com](https://siltahouse.com)) | TypeScript, React, Next.js, Tailwind CSS, tRPC

Maze Maverick | C#, Unity (3D), Blender, Steamworks

Blood Pivot | C#, Unity (2D), Steamworks

## AWARDS AND LEADERSHIP

### 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 Fellowship

Present

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

### Y Combinator (YC) AI Startup School in San Francisco

2025

Selected participant; Invited to SF with travel fully sponsored.

## TECHNICAL SKILLS

**Languages:** Python, TypeScript/JavaScript, C++

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