

Zain Rezaei

Master's Student in Mechatronics
B.Sc. Computational Engineering

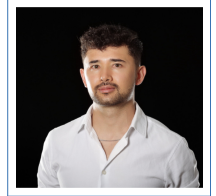
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🌐 My Webpage

🐙 Github in LinkedIn



Profile & Journey

The Engineer: A Computational Engineering graduate and current Mechatronics Master's student at Aalto University. Proficient in simulation (MATLAB, FEM), embedded programming (Python, Scala), CAD, and hardware integration. Seeking to apply analytical skills to R&D challenges in the sector..

The Journey: Originally from Afghanistan, I moved to Finland in late 2015. My integration journey demonstrates my core professional strength: **rapid adaptability**.

- Mastered the Finnish language within one year.
- Completed High School (Vuosaari Lukio) in just two years.
- Secured a place at Aalto University through top-tier Matriculation Exam results.
- Proud Finnish citizen (since 2022) with native-level fluency.

Education

- 2024–Present **Master of Science in Technology (Mechatronics)**, *Aalto University*, Espoo.
Focus: Machine Design, Control Systems, Mechatronic System Simulation.
- 2021–2024 **Bachelor of Science in Technology (Computational Engineering)**, *Aalto University*, Espoo.
Focus: Applied Mathematics, Programming, Engineering Physics.
- 2018–2020 **Finnish Matriculation Examination**, *Vuosaaren lukio*, Helsinki.
Completed in accelerated timeline (2 years).

Key Engineering Projects (Fall 2025)

- Oct – Dec **Detailed Mechanical Design & Simulation (MBS/FEA)**, *Aalto University*.
- Conducted detailed design of a mechanical transmission system using **Siemens NX**.
 - Performed **Multi-Body Simulation (MBS)** to analyze dynamic loads and **Finite Element Analysis (FEA)** to validate structural integrity of gear components.
 - Selected critical components (SKF bearings, gearboxes) based on load calculations and ISO standards.
 - Produced detailed engineering drawings and assembly renders.
- Sept – Nov **Control System Design & Modeling (MATLAB/Simulink)**, *Aalto University*.
- **DC Motor Control:** Designed and tuned a PI controller for a DC motor system. Analyzed torque, efficiency curves, and thermal limitations using Simulink.
 - **Pendulum-Trolley System:** Developed a state-space model for an inverted pendulum on a trolley.
 - Implemented system dynamics in **MATLAB** (State-space matrices A, B, C, D) to simulate stabilization and reference tracking.
 - Analyzed frequency response (Bode plots) and signal filtering (Low-pass RC filters).

Professional Experience

- Jan 2025 – Present **Co-Founder & Technical Lead**, *A2Z-Solutions OY*, Salo.
- Founded a digital agency serving Finnish businesses with custom web solutions.
 - **Tech Stack:** Leading development using React, Node.js, and Cloud infrastructure.
 - Managed the full project lifecycle: requirement analysis (in Finnish), architecture design, and deployment.
 - **Relevance to Industry:** Demonstrates project management, client communication, and system architecture skills.

- Jun 2024 – **STEM Specialist**, *Summit Camp & Travel*, USA.
- Aug 2024
 - Taught Discovery classes combining chemistry, engineering, and environmental science
 - Developed adaptive teaching methods for diverse learning needs
 - Managed groups of 30+ participants with varying technical backgrounds
- Jun 2021 – **Technical Assistant**, *Akukon Oy*.
- Aug 2021
 - Integrated cloud-based IT systems for acoustic measurement data
 - Assisted in technical system maintenance and troubleshooting
 - Documented technical procedures and system configurations

Technical Skills

Engineering	MATLAB, Simulink, Siemens NX, Autodesk Fusion, Creo (CAD), Finite Element Analysis (FEA), Multi-Body Simulation (MBS), Control Theory (PID, State-Space), Circuit Analysis.
Programming	Python (Data/Scripting), Scala, C (Basic), SQL.
Web/IT	Git/GitHub, Cloud Infrastructure (Hosting, API), Linux environments.
Soft Skills	Complex Problem Solving, Rapid Learning, Technical Documentation, Entrepreneurial Mindset.

Languages

Finnish	Native Proficiency (C2)	English	Native Proficiency (C2)
Dari (Persian)	Native		

Certifications

- Occupational Safety Card (Työturvallisuuskortti)
- First Aid Certificate
- Hygiene Passport
- Driver’s License (B)

Referees

References available upon request.