

GANBAT SELENGE

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SUMMARY

Graduate Mechatronics Engineer (GPA: 4.7/5.0) with a focus on robotics, autonomous systems, and cyber-physical control. Experienced in ROS 2, sensor fusion (EKF, LiDAR), and full-stack software development. Proven ability to bridge mechanical design and intelligent software through high-level academic research and industrial internships.

EDUCATION

University of Debrecen

Debrecen, Hungary

Bachelor of Science in Mechatronics Engineering

Sep 2022 – Feb 2026

- **Grade: Excellent (4.7/5.0)** | Total Credits: 231 ECTS
- **Specialization:** Mechatronic Systems (Control Theory, Robotics, and Embedded Systems)
- **Honors:** Consistently achieved "Excellent (5)" grades in core technical modules including Robots and Robotics Technology, Applied Automatization, and Cyber-Physical Systems.

TECHNICAL SKILLS

Robotics & Control: ROS 2, Cyber-Physical Systems, PID Control, Kalman Filters (EKF), Applied Automatization

Software & Tools: MATLAB, Simulink, LabVIEW, AutoCAD, NI Multisim, KiCad, Git/GitHub, Gazebo

Languages: C/C++, Python, JavaScript (Angular/Angular JS), Rust

Hardware: Raspberry Pi 4, Arduino Nano ESP32, 2D LiDAR, IMU, Ultrasonic/IR Sensors

RESEARCH & ENGINEERING PROJECTS

Coordination and Control of Mobile Robot Swarms (BSc Thesis)

ROS 2, Python, C++

- Wrote a thesis developing a Leader-Follower cooperative localization framework.
- Implemented an Extended Kalman Filter (EKF) to fuse LiDAR perception data with wheel odometry and IMU.
- Engineered a perception pipeline using DBSCAN clustering for real-time tracking of follower robots.
- Developed and validated the system in both Gazebo simulation and on physical Raspberry Pi 4 hardware.

EXPERIENCE

Autonomous & Assistive Robotics Research Group (A²R)

Debrecen, Hungary

Undergraduate Researcher

Feb 2025 – Feb 2026

- Conducted research focusing on multi-robot coordination and autonomous navigation.
- **Thesis:** Developed a Leader-Follower cooperative localization framework using ROS 2, Python, and C++.

Lime Light TechLead

Oslo, Norway

Intern - Renewable Energy Management

Jul 2024 – Sep 2024

- Engineered and monitored solar panel systems, ensuring optimal operation and power output.
- Diagnosed hardware faults in systems and performed preventative maintenance on monitoring equipment.

Grapecity Mongolia

Ulaanbaatar, Mongolia

Frontend Developer (Contract)

Jan 2021 – Feb 2021

Frontend Developer (Contract)

May 2020 – Aug 2020

- Architected a banking application using Angular JS, implementing secure account management and transaction tracking.
- Developed the UI for the "UB Parking" system, focusing on responsive design and real-time data visualization.
- Collaborated with backend teams to debug API integrations and optimize application load times.

LANGUAGES

English (C1 Proficient), Mongolian (Native)