# Mend-Amar Badral

mendamar345@gmail.com ● (+976) 86515136 ● mendebadra.github.io ● github.com/mendeBadra/

## EDUCATION

**Budapest University of Technology and Economics** September 2025 - (Expected) June 2027
*Master of Science*
- Computer Science Engineering (Data Science and AI specialization)

**National University of Mongolia** June 2025
*Bachelor of Science* *Ulaanbaatar, Mongolia*
- Applied Mathematics
- GPA 3.2/4.0
- Thesis: **Evaluating land degradation using image processing and machine learning methods**

## WORK EXPERIENCE

**NUM: Center of Mathematics Applications** October 2023 - June 2025
*Research Intern* *Ulaanbaatar, Mongolia*
- Collaborated with the **Ecosystem Research team at MULS** to modernize the process of assessing land degradation.
- Participated in data acquisition across 5 field sites in Khustai National Park; gained hands-on experience with drone operation (DJI) and imagery collection.
- Co-developed with Prof. Galtbayar Artbazar on **drone data collection and processing pipeline** in Python to classify land into phenological types (grass, soil, weed). Presentation slides available here.
- Designed a methodology that demonstrated potential to save **hundreds of field survey hours** while generating geospatial, data-driven insights for land management.
- Applied state-of-the-art weed detection datasets (*WeedsGalore*) and segmentation models (PyTorch **DeepLabV3**, **MaskFormer**) for vegetation analysis.
- Gained practical experience in **photogrammetry, GIS, Python scripting for large-scale imagery, and version control (Git)**.

## AWARDS

**Stipendium Hungaricum Scholarship** September 2025
Hungarian Government Scholarship

## PROJECTS

**Deep Learning Concepts Book Figures Reproduction** December 2024 -(ongoing)

- Studied and reproduced key examples from Christopher Bishop's *Deep Learning Foundations and Concepts* to deepen theoretical and practical understanding of core deep learning ideas.
- Published reproducible Jupyter and Pluto notebooks on GitHub, emphasizing clarity, mathematical explanation, and visualization.
- Explored both **Python** and **Julia** environments to broaden technical fluency.

## SKILLS & INTERESTS

- **Programming:** Python, Julia, C++, PyTorch, Bash, Linux, Docker
- **Languages:** English (C1 proficiency IELTS 8.0), Hungarian (beginner), Mongolian (native)
- **Interests:** Deep Learning, Computer Vision, Reinforcement Learning, Autonomous Driving