Sebastian Zainali

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EDUCATION

Mälardalen University — Västerås
PhD in Agrivoltaic Systems (Expected Graduation 2025) — *2021-Present*
- Optimizing agrivoltaic systems to find the most efficient system solution for Sweden.
- Incorporating machine learning and probabilistic machine learning to improve the modeling of agrivoltaic systems.

Mälardalen University — Västerås
Licentiate in Agrivoltaic Systems — *2021-2024*
- Modeling and simulating agrivoltaic systems with a focus on microclimate.
- Developing models for simulation using computational fluid dynamics (CFD) for agrivoltaic systems.

Mälardalen University — Västerås
MSc in Sustainable Energy Systems — *2019-2021*
- Focused on modeling, simulation, and optimization of various types of energy systems.

Mälardalen University — Västerås
BSc in Energy Systems with a focus on Electrical Engineering — *2016-2019*
- Studied fundamental principles in several types of energy systems, with a particular emphasis on various aspects of the electrical grid such as production, distribution, load management, as well as fault analysis and handling.

EXPERIENCE

Teacher — 2021 – Present
Mälardalen University — *Västerås*
- Conducting simulations and experiments in solar cell labs within university courses that include solar energy.

Research Assistant — July 2021 – September 2021
Mälardalen University — *Västerås*
- Assembly and installation of multiple IoT stations in Hemavan, Sweden. These are intended to predict snow melting and regulate water flow to hydroelectric power plants to minimize excess.
- Compared several machine learning algorithms suitable for IoT stations.

ADDITIONAL PROJECTS

Solar Car Project - Matlab - Non-linear Optimization — 2019-2021
Mälardalen University — *Västerås*
- The aim of the project was to construct a solar-powered car and compete in the Bridgestone World Solar Challenge in Australia.
- Responsible for solar cell design, optimization, and development of a consumption/production model to forecast the optimal vehicle speed.

RELEVANT SKILLS

Programming Languages: Python, C, MATLAB, C++, Javascript, R, HTML, CSS

Libraries: PyTorch, NumPy, Huggingface, Pandas
Tools Technologies: Linux, Git/GitHub, LaTeX
Additional: B Driver's License

LANGUAGES

Swedish: Advanced — Native Speaker
English: Advanced — Speak, Read, and Write

References

Pietro Elia Campana Supervisor for my PhD studies — Mälardalen University — pietro.campana@mdu.se — (+46) 21 101 469