Maciej **Gumulka**

DATA SCIENTIST AND ELECTRICAL ENGINEER · MSc ENERGY FOR SMART CITIES

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" Interested in developing a career in software in combination with leveraging my leadership skills"

Summary

Electrical engineer with +1 year of professional experience in software and data. Successful leader of agile teams, proven by multiple awards. Graduated with Cum Laude from Innoenergy Double-Degree Master's Program "Energy for Smart Cities", currently working at Northvolt in Sweden. Distinguished by diversified approach thanks to work-experience across three continents. Strong background in building data queries (SQL, Python), machine learning (Matlab, Python), data visualization for decision making. Interested in developing a career in software in combination with leveraging my leadership skills.

Work Experience

Northvolt   *Stockholm, Sweden*

MANUFACTURING TEST ENGINEER   *Mar. 2020 - now*

- Conceptually designed and built a data warehouse for Northvolt's factory - including database design (SQL), backend (PHP), frontend (JS, jQuery), reporting dashboards (Power BI) and setting KPIs. The project saves money, time and adds transparency to ongoing production by enabling digital manufacturing
- Project Manager for BOL & EOL battery testing for the newly-emerging factory lines - ensuring fast, reliable production and automated data capture

Northvolt   *Stockholm, Sweden*

TEST AUTOMATION ENGINEER   *Sep. 2019 - Mar. 2020*

- Implemented a Machine Learning model for detection of specific type of failures in battery modules. The model aims to replace previously used testing, leading to 40% of time reduction and improving reliability by decreasing the risk of battery failures during onsite operation
- Conducted multiple tests to built the database, acquired and preprocessed data for further use

Northvolt   *Stockholm, Sweden*

SUMMER INTERN   *Jun. 2019 - Aug. 2019*

- Conceptually designed and built the test procedure to detect battery's State of Charge and charge it to a desired level (later used in the next role)

Land2Plant   *Stockholm, Sweden*

CO-FOUNDER   *Nov. 2019 - now*

- Co-founded an innovative crowdfunding platform for investors in renewable energy
- Leader of a team of 4, resulted in winning multiple competitions and securing placement in startup incubators
- Improved networking and learned how to communicate engineering knowledge to business actors by pitching in front of investors
- Built a financial model of the startup

Empa   *Duebendorf, Switzerland*

INTERN AT URBAN ENERGY SYSTEMS LAB   *Feb. 2018 - Aug. 2018*

- Built a time-series model which simulated equipping a grey-water heat recovery system in a household energy system
- Achieved the system performance prediction over one year and concluded with potential benefits of constructing a physical system before the prototype is built

Education

Double Master Degree in Energy for Smart Cities · EIT - InnoEnergy Dual Degree Program   *Leuven & Stockholm*

KU LEUVEN, BELGIUM & KTH, SWEDEN   *Aug. 2018 - Jul. 2020*

- Graduated with 75% *cum laude*
- Master Thesis: *Automated Detection of Wirebonding Failures for Li-Ion Batteries Using Machine Learning*
- Relevant courses: Optimization, Machine Learning and Inductive Interference, Data Mining and Neural Networks, Computer Applications in Power Systems, Communication and Control in Electric Power Systems, Project Management and Leadership
- I designed and built a data analytics model (in R) aimed to help the City Planners of Stockholm in identifying key improvements for energy systems in buildings

BSc in Power Engineering *Cracow, Poland*

AGH UST *Oct. 2014 - Jan. 2018*

- Graduated as one of the top 10% students with GPA 3.51
- Took part in one-semester exchange program at Shibaura Institute of Technilogy in Tokyo, Japan; finished with GPA of 3.9
- Researched over cooling systems during one-month summer internship in Campinas, Brazil

Skills

Programming	Python · Java · Matlab · LabView · C# · SQL · PHP · JavaScript
Analytics	Spark · Excel · TensorFlow · Scikit-learn · Relational Databases · Power BI
Domain-specific	Battery Industry · SCADA · Power Systems Analysis · Electrical Machines · Renewable Energy
Languages	English C1 · German B1 · Russian B1 · Polish C2
Certificates	Polish Association of Electrical Engineers (Mar 2017)
	Solidworks Certified Associate (Jun 2016)
	LabView Certified Associate Developer (Jun 2016)
	Project Management Principles PMPrin (Apr 2016)

Awards

2020	**2nd place**, Copernicus Hackathon - leading software & business team developing product for space industry	*Stockholm*
2020	**2nd place**, Innoenergy Entrepreneurship Journey - leading a team developing a fintech startup	*Amsterdam*
2019	**1st place**, EPAE Conference - leading a business team presenting startup idea on international competition	*Gliwice*
2019	**3rd place**, EDPR University Challange - leading a business team presenting startup idea on global finals	*Madrit & Lisbon*

Extracurricular Activity

Innovation and Entrepreneurship Journeys by Innoenergy *Spain, Belgium, Netherlands*

PARTICIPANT *Aug. 2018 - Jul. 2020*

- Increased networking and creative-thinking skills by solving a business challenge of deicing streets in Belgium using shallow geothermics
- Strengthened background in public speaking and business-creation by working on my own startup idea during coaching workshops

KU Leuven Swimming Team *Leuven, Belgium*

MEMBER *Sep. 2019 - Feb. 2020*

- Shared my passion for swimming with fellow colleagues at the university swimming team

IAESTE *Cracow, Poland*

MEMBER *Sept. 2015 - Jan. 2018*

- Designed graphical content for the organization
- Co-organized recruitment process for new members and workshops between students and companies

"Eco-Energy" Students' Scientific Organization *Cracow, Poland*

MEMBER *Sep. 2015 - Jan. 2018*

- Designed a solar installation for a racing boat as a member of "AGH Solar Boat" team
- Designed and built an innovative solar cooler (*Solar-driven Refrigerator for off-grid Regions*), the project received extensive sponsorship and was presented at scientific conference

AGH UST Powerlifting Team *Cracow, Poland*

MEMBER *Sep. 2015 - Mar. 2017*

- Escaped from daily routine by training with the university powerlifting team