



# LUKE SCHUMACHER

## Agentic & Industrial AI Engineer

### PROFESSIONAL PROFILE

I am an AI Researcher and Technology Specialist with a strong international background spanning the Middle East, Europe, and Asia. I hold a bachelor's degree in CMD & IT. Currently, I am pursuing a master's degree in Artificial Intelligence for Sustainable Societies through the prestigious Erasmus Mundus program, with academic experiences in Tallinn, Porto, and Tampere. My expertise lies in Machine Learning and Data Science, with a deep interest in applying AI to address societal challenges and drive sustainable innovation. I am passionate about leveraging data to uncover insights and craft meaningful solutions that bridge technology and human needs. I excel in collaborative, multicultural environments, bringing curiosity, adaptability, and a strong sense of purpose to my work. I am committed to advancing research and applications in AI to make a lasting impact.

### WORK EXPERIENCE

#### Working Student – DS & ML

Oct 2023 – Present

Siemens Healthineers

Germany (Remote)

I am leading a Siemens Healthineers project to develop a customer model optimizing workflow efficiency for a global clientele. Leveraging data analytics, data science, and machine learning, I design algorithms that analyze customer data, deliver actionable insights, and enhance healthcare operations worldwide, ultimately improving patient care.

#### AI Development Intern – Master's Thesis

Dec 2024 – Present

Illigo, German Telekom & Siemens Healthineers Collaboration Remote from Estonia

Conducting master's thesis on **Autonomous Protocols, Neurosymbolic Reliability, and Hierarchical Governance in Critical Infrastructure MAS**. Researching the convergence of standardized agent protocols (A2A, LACP) and Neurosymbolic AI to ensure reliability in critical systems. Work involves implementing hierarchical governance patterns (Minister, Gatekeeper) and evaluating Federated Machine Reasoning and Multi-Agent Debate for robust decision-making. 5-month R&D internship with defense planned for May 2026.

#### Machine Learning & Data Science Intern

Jan 2022 – Oct 2023

Infoteam Software AG

Germany

Developed expertise in machine learning and data science by working on projects to boost client digital efficiency and streamline production processes through virtual prototypes. Built on skills honed during studies in South Korea, acquiring practical knowledge from experienced professionals in a collaborative environment.

#### Cloud Infrastructure Intern

Jan 2021 – Jan 2022

Zero & One – AWS Partner

UAE

As a Cloud Intern at Zero and One (AWS Partner), I gained hands-on experience deploying and managing AWS services for client projects to enhance operational efficiency. Working directly under the mentorship of cloud experts, I translated foundational knowledge into practical skills across a range of real-world infrastructure challenges. This intensive, practical role culminated in my successful attainment of the AWS Cloud Certified Practitioner certification.

### CONTACT

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- github.com/luke-schumacher
- linkedin.com/in/luke-schumacher

### LANGUAGES

- English Native/C2
- German Native
- Arabic B1 - Conversational
- French B1 - Conversational

### CORE SKILLS

#### Programming

- Python • Java • C# • JavaScript • SQL
- HTML/CSS

#### ML Frameworks

- TensorFlow • PyTorch • Keras •
- Scikit-learn • XGBoost • Predictive Modeling

#### Data Science

- Pandas • NumPy • Matplotlib • Seaborn
- Tableau • PySpark

#### Agentic AI

- Multi-Agent Systems • Neurosymbolic AI
- Hierarchical Governance • LangChain • Transformers

#### Cloud & DevOps

- AWS (Certified) • Azure • Docker •
- Kubernetes • Git • Terraform

#### Design & Database

- Figma • Adobe XD • PostgreSQL •
- MongoDB • Redis • MySQL

#### MLOps & Industrial

- MLflow • Weights & Biases • Workflow Optimization • CI/CD • Agile

# CERTIFICATES & AWARDS

**AWS Certified Cloud Practitioner**  
*Amazon Web Services*

**ITT Summit – Siemens Healthineers**  
*First Place with Georg Goertler and Belen Rodriguez*

# KEY HIGHLIGHTS

- Top 5% performance in ML & Data Science courses
- Leading global healthcare optimization project at Siemens
- 4+ years combined experience in AI/ML and cloud technologies
- International experience across 3 continents

# EDUCATION

**Master of Science – AI for Sustainable Societies** Aug 2024 - Present  
*University of Tallinn, Lusófona and Tampere* Tallinn, Porto, Tampere  
Prestigious Erasmus Mundus program focusing on applying AI techniques to sustainable development and societal challenges. **Current focus:** Master’s thesis on Autonomous Protocols and Neurosymbolic Reliability in Multi-Agent Systems for critical infrastructure, in collaboration with Telekom/Illigo and Siemens Healthineers. Expected defense: May 2026.

**Bachelor – Communication & Multimedia Design** Aug 2019 - Aug 2024  
*Hanze University of Applied Sciences* Groningen, Netherlands  
Specialization in interactive design, user experience, and digital technologies with focus on human-computer interaction and data-driven design solutions.

**Minor – Artificial Intelligence & Machine Learning** Feb - Sep 2022  
*Hanyang University* Seoul, South Korea  
**Top 5% of class** in Machine Learning and AI+X: Introduction to Data Science courses. Completed final research project applying machine learning to understand patterns of stock market fluctuations across different industries.

# PROFESSIONAL COMPETENCIES

- Technical Excellence:** Data-driven decision making • Statistical modeling • Algorithm design & optimization • Model deployment & monitoring • Cloud architecture design
- Collaboration:** Cross-functional teamwork • Stakeholder management • Agile methodologies • Technical communication • Knowledge sharing
- Leadership:** Scrum planning • Sprint facilitation • Team coordination • Mentoring • Project ownership
- Soft Skills:** Adaptability • Problem-solving • Attention to detail • Analytical thinking • Cultural sensitivity • Competitive drive

# REFERENCES

**Dr. Stefano Signoriello** – Lead Data Scientist infroteam Software AG  
✉ [Stefano.Signoriello@infoteam.de](mailto:Stefano.Signoriello@infoteam.de) • [www.linkedin.com/in/dr-stefano-signoriello](https://www.linkedin.com/in/dr-stefano-signoriello)  
“Reference regarding: My technical contributions to R&D and critical data infrastructure. Can attest to my rigorous engineering standards, expertise in complex data pipelines, and ability to handle high-stakes technical challenges with outstanding precision and endurance.”

**Iolanda Vehlo** – Assistant Professor, Universidade Lusófona  
✉ [iolandavelho@gmail.com](mailto:iolandavelho@gmail.com) • [www.linkedin.com/in/iolanda-velho-9a594a46](https://www.linkedin.com/in/iolanda-velho-9a594a46)  
“Luke is one of my most outstanding students... clearly placing him among the top-tier Master’s students. Luke’s strong interest, combined with his solid programming skills, has contributed significantly to the success of his academic path. [He has] proven to be an outstanding student, delivering projects of a very high level.”

**Casey Bennett** – Associate Professor, Hanyang University & DePaul University  
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“Luke finished among the top 5% of students in both my Machine Learning and Data Science courses. He stood out for his creative contributions to classroom discussions, often relating abstract concepts to everyday life experiences. Luke demonstrated strong technical skills, excellent leadership in group projects, and has consistently gone above and beyond expectations. I believe he represents immense potential as a future data science professional.”