Johannes Hackl

MSc Software Design (ITU)

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Profile

MSc student in Software Design at ITU Copenhagen with a focus on machine learning, robotics, and data-driven optimization. My background in computational design in architecture taught me to develop algorithmic workflows and analyze complex systems, which naturally led me into programming and applied AI. I have experience with Python, Java, and machine learning libraries, as well as data analysis and simulation. I am motivated to apply these skills to real-world optimization challenges at Sealytix.

Education

2024 – Present **MSc Software Design**, *ITU Copenhagen*, Copenhagen, Denmark
Specialization in machine learning and robotics; completed courses:
Algorithms and Data Structures (A), *Introduction to Artificial Intelligence (A)*, *Database Systems (B)*, *Introductory Programming - Java (A)*, *Discrete Mathematics (A)* and *Software Engineering (A)*; currently enrolled in *Data Mining*, *AI Robotics*, and *Advanced ML for Computer Vision*.

2019 – 2020 **ERASMUS Exchange, BSc Architecture**, *UEM*, Madrid, Spain

2017 – 2021 **BSc (Hons) Architecture, First-Class Honours Degree**, *Coventry University*, UK
Focused on computational design technology, environmental data-driven design and analysis.

Professional Experience

2025 – Present **Teaching Assistant (Discrete Mathematics & Study Lab)**, *ITU*, Copenhagen, Denmark
- Assisting students with problem-solving and understanding course concepts.
- Conducting exercise sessions, tutorials, and grading.

2021 – 2024 **Computational Designer / Architect**, *BIG (Bjarke Ingels Group)*, Copenhagen, Denmark
- Developed computational workflows and scripts using Python and Grasshopper for data-driven design.
- Environmental data analysis including wind and solar simulations to support sustainable design decisions.
- Mentored interns in computational modeling and environmental simulation tools.

2020 – 2025 **Freelance Computational Designer / Team Lead**, *Archiologics*, Madrid, Spain
- Led a team of architects for facade module manufacturing.
- Algorithmic automation of design processes and data analysis using scripting tools.
- Conducted client presentations, communication, and site visits.

Technical Skills

Programming	Java, Python, SQL
Libraries / ML Tools	NumPy, Pandas, scikit-learn, PyTorch (basic)
Tools	Git, VS Code, DBeaver, Rhino + Grasshopper (Computational Design)

Language Skills

German	Native
English	C1 (Fluent)
Spanish	A2 (Intermediate)
Portuguese	A1 (Beginner)

Teaching & Leadership

2023 – 2024 Organized internal Rhino + Grasshopper workshops at BIG for employees.

2022 – 2024 Assisted in mentoring interns; contributed to onboarding materials and knowledge-sharing sessions.

2020 – 2021 Teaching Assistant, Coventry University - Supported undergraduate students with software and modeling tools during studio sessions in the 3rd year.