

Jacob Raoul Molnia

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EDUCATION

Worcester Polytechnic Institute

Computer Science (BS/MS); Mathematical Science (BS)

Privates Gymnasium Huber (German Primary School)

Abitur Degree - Bavaria (German Pre-College Diploma)

Worcester, MA, USA

Aug 2023 - May 2027

Munich, Bav, DE

Sept 2014 - June 2022

TECHNICAL SKILLS

Programming Languages: C, C++, Python, Java, Racket, L^AT_EX, Rust, SQL, HTML, CSS, \LaTeX , MATLAB

Libraries and Tools: Pandas, Numpy, Matplotlib, Git, Manim, React, Dioxus, Llama.cpp

ADDITIONAL SKILLS

Languages: German, English, Latin (Basic)

Software: Word, Excel, Power Point, Outlook, MS Teams, Zoom, KICAD

WORK EXPERIENCE

Undergraduate Research Assistant

BioEM Lab WPI, Worcester, MA

Mai 2024 - current

- Tasked with upgrading existing software tool kits purpose built for paper to paper to be one modular MATLAB toolkit, whilst future proofing.
- Developing a unit testing framework to enable continuous integrate for said software toolkit.
- Developed skills: Unit testing, Version control, Object oriented programming

Tutor

Academic Research Center WPI, Worcester, MA

Mai 2024 - current

- Teaching student necessary skills in Linear Algebra, Ordinary Differential Equations, Introduction to Program Design, Object oriented programming and systems programming
- Learned essential communication skills, as well as developing a more fundamental understanding in the subjects tutored.

Intern

Helbling Precision Engineering, Bavaria, Munich

Apr 2018 - June 2018

- Helped design and program Arduino/STM32 based embedded systems, used for commercial products.
- Acquired basic understanding of production workflow and design as well as test process.

PROJECTS/COURSES

- **NERD Chatbot**, Building a LLM based chatbot. Utilized the CLASS framework as well as RAG agents to fine-tune Llama 2 using Llama.cpp to effectively tutor students in AP history.
- **MIT 6.036 - Introduction to ML**, A basic course on machine learning. Projects included training models on basic regression and classification tasks using PyTorch. Enabled a basic understanding of machine learning algorithms and tasks.
- **Rational Numbers Calculator**, This was a command line interface build project in C. Using algebra and type-definition I was able to design a simple command line calculator operating on rational numbers whilst avoiding floating point numbers all together.

EXTRACURRICULAR ACTIVITIES

- **Technical Support** Explorers club - Nov 2022 - currently
- **Executive member** Volt Europe - Mar 2018 - Nov 2020
- **Tutor** Math, Physics, Chemistry, English - Mar 2021 - Sept 2022
- **Manager** Kickin' Candy (Indie Band) - Nov 2020 - June 2022

HONOURS

- **Deans List** Worcester Polytechnic Institute - Jan 2024 - currently