

Rachel Tjarksen

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EDUCATION

Case Western Reserve University (Cleveland, Ohio)

Expected Graduation: May 2026

- BS in Computer Science; BS in Mathematics
- *Dean's High Honors List*
- *University Scholar*

GPA: 3.92/4.00

Lake Forest High School (Lake Forest, Illinois)

August 2018 – June 2022

- High School Diploma
- *Cum Laude*

GPA: 5.38/5.00

SKILLS AND RELEVANT COURSEWORK

Skills

- **Programming Languages:** Python; Java; C; C++; C#; R; MATLAB; HTML5/CSS3; JavaScript; Assembly; VHDL
- **Python Libraries:** TensorFlow; Pytorch; Scikitlearn; Keras; Huggingface Transformers API; Qiskit; Pandas
- **Other Tools:** Linux; SQL; Git; Microsoft Office; Web Development; Biliteracy in Spanish

Coursework

- **Computer Science:** Data Structures and Algorithms; Software Engineering; Operating Systems; Algorithms; Advanced Algorithms; Computer System Architecture; Logic Design and Computer Organization
- **Mathematics:** Calculus I, II, III; Discrete Math; Differential Equations; Linear Algebra; Abstract Algebra; Graph Theory

PROJECTS

Sequence Classification with Transformers Research Paper

May 2023 – Present

- Conducted comparative study of Transformer based NLP models with classical machine learning techniques.
- Fine tuned and trained BERT-based models for Sequence Classification of Financial Documents.
- Developed an NLP pipeline for the fine-tuned financial sequence classification model.
- Worked with Hugging Face API (BERT), TensorFlow, Pytorch, Scikit-Learn.

Flexible Quantum Representation of Images for Tensor Compression

April 2023 – Present

- Worked on a research paper on compression of Tensors using FRQI techniques.
- Helped out in the proof of correctness and other linear algebra derivations.
- Used Python's Qiskit library for the quantum simulation environment.

WORK EXPERIENCE

Beach Guard | City of Lake Forest, Illinois

May 2021 – August 2021; 2022 – August 2022

- Verified residency and provided customer service
- Assisted patrons with obtaining boating passes

French Horn Teacher | Private Studio

May 2020 – August 2022

- Provided one hour weekly lessons for local middle school students to go over music theory and horn technique

LINKS

- LinkedIn: <https://www.linkedin.com/in/rachel-tjarksen-26a275259/>
- Github: <https://github.com/rachel-tj>
- Personal Website: <https://rachel-tj.github.io/my-portfolio/>