

Jack Rutland

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Education —

B.S Computer Science

Rensselaer Polytechnic Institute / Troy, NY
September 2020 - Expected June 2023 | GPA : 3.73 (Dean's Honors List All Semesters)

Experience —

Full-Stack Software Developer

Rensselaer Polytechnic Institute Department of Cognitive Science
August 2021 - Present

Existential Graphs · <https://github.com/Bram-Hub/existential-graphs>

- Co-led and worked on a small team of developers
- Worked directly with a client to iteratively design, develop, test, and deploy
- Implemented complex logistical systems based on client provided specifications
- Worked full-stack using MERN stack (MongoDB, Express, React, Node.js)

Projects —

Secure ATM System

August 2022

- Worked in a group of three to develop a semantically secure ATM system that implemented RSA for asymmetric key exchange and digital signature, SHA-256 for message hashing, AES-256 in CBC mode for symmetric message encryption, as well as several other cryptographic techniques to make the ATM invulnerable to attacks.
- Was paired with adversarial team, who analyzed several attacks and deemed them impossible to perform on our cryptosystem.

Image Classification

April 2022

- Developed an image classification system to classify images into any number of categories along with a nothing classification. This system was able to draw bounding boxes around the entities in the image, as well as identify multiple entities of both the same and differing classifications.
- Used Python, PyTorch, and NumPy to develop the system, as well as matplotlib to display statistics around the success of the system.

Skills —

- Javascript / React
- SQL / MongoDB
- TailwindCSS
- Google Cloud Platform
- Python
- NumPy
- Matplotlib
- OpenCV / PyTorch
- C / C++
- Java
- Adobe Photoshop / Illustrator
- Git