

Aqib Mahfuz

561-843-8033 | aqib.mahfuz@gmail.com | [LinkedIn](#) | [Github](#) | [Personal Website](#) | U.S. Citizen

EDUCATION

University of Oxford

Master of Science in Advanced Computer Science

Graduating in September 2024

Mark: Distinction (GPA Equivalent: 4.0/4.0)

- **Projects:**

- * PSyDUCK: Perfectly-secure Steganography via Diffusion models Using Construction Keys ([code](#))
- * Readout Optimization for Multigraph Neural Network Classifiers ([report](#)) ([code](#))

Duke University

Bachelor of Science in Computer Science and Mathematics (Double Major)

May 2023

GPA (in majors): 3.98/4.00

- **Teaching:**

- * *Graduate Computer Vision* (Spring 2023)
- * Design and Analysis of Algorithms (Spring 2022, Fall 2021) + Discrete Mathematics (Spring 2021)
- * Laboratory Calculus (Spring 2023, Spring 2022, Fall 2021, Spring 2021)

TECHNICAL SKILLS

(Italics indicate extensive experience)

Languages: *Python, TypeScript, Ruby, Java, Haskell*

Frameworks: *PyTorch, Diffusers, Pandas, React*

EXPERIENCE

Torr Vision Group

Student Researcher

Present

Oxford, United Kingdom

- [Designing novel steganographic schemes with generative AI](#) under supervision of esteemed Professor Philip Torr (i.e. hiding secret messages in AI-generated images/videos to evade detection)

Epic Systems

Full-Stack Developer — Brainbow

Jun. 2023 – Sep. 2023

Verona, Wisconsin

- Streamlined training website designed for both end-users and employees of world's largest healthcare software firm
- Spearheaded team-wide transition to modern version control system (Git), resulting in 50%+ productivity boost

Meta (FAIR Labs)

Software Engineering Intern — Droidlet

Summer 2022

Menlo Park, California

- Collaborated on Droidlet, a modular framework for rapid multi-modal agent deployment, culminating in [a real-time interaction tool that facilitated visual annotation for ML pipelines](#)
- Contributions can be found in the open-sourced codebase [here](#)

Facebook Financial

Software Engineering Intern — Payments Risk Engineering

Summer 2021

Remote

- Designed new fraud detection immunity framework, [reducing weekly losses by \\$1+ million](#) across millions of users

PROJECTS

PSyDUCK | *Python, PyTorch*

- [The first perfectly-secure steganographic scheme to employ latent image and video diffusion models](#)
- Able to encode hundreds of bytes at 99% accuracy with mathematical guarantees to be undetectable w/out keys

R-FR-GNN | *Python, PyTorch*

- Devised [new class of GNNs that infer up to 3x faster than before](#) by cutting out certain costly readout operations
- Demonstrated both empirically and theoretically that these models perform classification tasks as well if not better than (due to not overfitting) state-of-the-art R²-GNNs

Food Devil | *TypeScript, React, Node.js, MongoDB, Python*

- Led team behind crowd-sourced review website for Duke Dining locations w/ campus-wide feed + nutrition tracking