

ALEXANDER JANIAK

270 Bridle Path
Mountainside, NJ 07092

Email: alexander.janiak@outlook.com | GitHub: [@alexjaniak](https://github.com/alexjaniak) | Website: <https://alexjaniak.com>

908.400.6216

EDUCATION

Duke University

Durham, NC

B.S. in Computer Science & B.A. in Philosophy; Minor in Mathematics

Class of 2025

- GPA: 3.96/4.00 (Dean's List with Distinction); ACT: 36/36
- Notable Classes: Neural Networks & Deep Learning, Design & Analysis of Algorithms, Data Structures & Algorithms, Probability, Vector Calculus, Intro to Computer Systems, Matrices & Vector Spaces, Computer Network Architecture, Discrete Math for Computer Science
- Extracurriculars: Builder for Innovation Studio, Ignite Hackathon, Wayne Manor (SLG) Event Planner

PROJECTS

- [CLPM](#): A locally encrypted command-line password manager built with 256-bit AES encryption; Python, SQLite, Click
- [Pet Breed Classifier](#): A convolutional neural network using a 34-layer ResNet architecture trained on the Oxford-IIIT Pet Database; Python, TensorFlow, NumPy, Pandas
- [Fractal Explorer](#): Unity application to explore the Mandelbrot and Julia fractal sets; C#, HLSL

SKILLS

- Languages: Python, Java, C, TypeScript/JavaScript, MATLAB, Racket, HTML, CSS, Polish
- Technologies: Git, React.js, PyTorch, Keras/Tensorflow, Scikit-Learn, NumPy, Pandas, SQLite, Click, Unix/Linux

EXPERIENCE

Aztec Network Grant Program: zkMNIST

Remote

Grantee

July 2023 – Current

- Circumvented blockchain's computational inefficiencies by building a full-stack application to provide an intuitive interface for running a machine learning model on the blockchain; Next.js, Typescript, Python, Keras/Tensorflow
- Created the first cryptographic machine learning verification algorithm capable of ensuring model parameter privacy in Noir (Aztec's zero-knowledge proof-based domain-specific programming language).

Spice Finance

New York, NY

Software Developer

May 2022 – August 2022

- Helped raise \$1.7M of pre-seed venture capital funding at a \$20M valuation by designing and implementing a decentralized finance product focused on providing liquidity to customers' digital assets.
- Developed in Python a capital allocation algorithm for digital asset-backed lending using NumPy, a full-scale API with FastAPI to broadcast proprietary digital asset valuations, and an exotic option pricing model to determine loan values in real time.

NJIT Provost Summer Research Program

Newark, NJ

Research Intern under Professor Shahriar Afkhami

June 2019 – August 2019

- Researched and modeled the effects of several physical parameters (*i.e.*, biometric data) on the dynamics of magnetic-targeting chemotherapy drugs using MATLAB's Machine Learning Toolbox.
- Computed a realistic range of injection locations and blood vessel radii for implementing magnetic drug targeting against invasive tumors.
- Optimized parameters to capture 80% of the magnetic particles using gaussian process, polynomial, and spline regression machine learning models.

ARCC: Pacific Northwest Gap Semester

Pacific Northwest, U.S.

Volunteer Team Member

February 2021 – May 2021

- Cleared forest understory in the conservation effort against invasive Kāhili ginger in Volcanoes National Park under the guidance of Ranger John Stallman.
- Volunteered at a local Washington ultra-sustainable permaculture farm and commune.