DAVID BREWSTER

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EDUCATION

University of Illinois at Urbana-Champaign — Fall 2016 - Spring 2021 (*expected*)
B.S. Computer Science — *Dean's List*
B.S. Mathematics

CONCENTRATIONS

Randomized Algorithms • Biological Computation • Machine Learning

RESEARCH EXPERIENCE

- **ICLUE @ UIUC** — *Algebraic Combinatorics — University of Illinois at Urbana-Champaign* — Summer 2020
- **Biological Computation Group** — *Protein Folding Algorithms — University of Illinois at Urbana-Champaign* — Spring 2020
- **Supercomputing Genomics Group** — *DNNs for Cancer Drug Predictions — Institute for Genomic Biology* [1] — Spring 2017

TEACHING

- **Software Design Studio (CS 126)** — *Senior Course Assistant — UIUC: Champaign, IL* — Fall 2017 - Spring 2020
- **Honors Intro to Computer Science (CS 196)** — *Homework Writer — UIUC: Champaign, IL* — Fall 2017
- **New Horizons GSST STEM Camp: Web Design** — *Instructor — TNCC: Hampton, VA* — Summer 2016

PROFESSIONAL EXPERIENCE

- **Citadel Securities** — *SWE Intern, Options Market Making — New York, NY* — Summer 2019
- **Citadel** — *SWE Intern, Global Quantitative Strategies — Chicago, IL* — Fall 2018
- **Two Sigma IQ** — *SWE Intern, Data Engineering — New York, NY* — Summer 2018
- **Microsoft** — *SWE Intern, Azure Compute — Redmond, WA* — Spring 2018
- **Google** — *SWE/SRE Intern, Zipit (Reviews) — New York, NY* — Summer 2017
- **Volume Technologies** — *SWE Intern — Champaign, IL* — Fall 2016 - Spring 2017
- **Gloucester Parks, Recreation, and Tourism** — *SWE Intern — Gloucester, VA* — Fall 2015 - Spring 2016

MEMBERSHIPS

- **Blacks and African Americans in Computing (BAAC @ Illinois)** — organizer
- **National Society of Black Engineers (NSBE) - UIUC Chapter** — member
- **Illinois Programming League (IPL)** — team placed 13^{th} out of ~ 100 at 2017 Mid-Central Regional ACM-ICPC

PROGRAMMING SITES

- **Project Euler** — *Computational Mathematics* — 150+ problems solved
- **Rosalind** — *Computational Biology* — 60+ problems solved

CODE SAMPLES (ON GITHUB)

- **Random Projections** — *Approximation Algorithms for Large Matrices* — Python/NumPy
- **Pong** — *Multi-threaded Pong Reinforcement Learning Environment* — C++/Python
- **Falling Blocks** — *Deep Reinforcement Learning with Hyper-NEAT* — JavaScript/React
- **Symbolic Computation** — *Parser + Lexer for Arithmetic Expressions from scratch* — F#
- **GDAX** — *Wrapper for Websocket connection to GDAX Crypto Exchange w/ Online Linear Regression* — Golang

TOOLS

Programming Languages	C/C++, Python, TypeScript, F#, Java, Golang, J (APL Dialect)
Frameworks	Numpy, Torch, Node.js, React, Tensorflow

[1] In collaboration with Argonne National Laboratories