# André Shannon

he/him/his

#### - Contact -

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### - Skills -

Advanced

Python  $\bullet$  C++  $\bullet$  Java  $\bullet$  Git Mathematica • LaTeX

Introductory

JavaScript • CSS • SQLite • HTML

# - Personal Projects

## Discord Chat Bot

- Movember 2021
  - Integrated OpenAI's GPT-3 NLP model into a Discord chat bot
  - Built with PRAW Reddit API and hosted on AWS EC2

#### MNIST Image Classifier

- May 2021
  - Created a Python ML classifier to classify digits from MNIST dataset
  - Built from scratch (only external library used was Numpy)

## - Honors -

- ★ James D. Crump Prize: Mathematics award for outstanding senior
- ★ Mary and Joseph Kent Computer Science Award
- ★ Phi Beta Kappa: Honor society
- ★ VS Lawrence Mathematics scholarship
- ★ Outstanding Student in Mathematics
- ★ UR Summer Research Fellowship
- $\bigstar$  Presidential Scholar ( $\frac{1}{3}$  tuition)  $\bigstar$  International Collegiate Programming Contest: 16<sup>th</sup> place Mid-Atlantic Region
- ★ Putnam Mathematics Exam: Scored 9

## – Interests & Hobbies –

- ♥ Former Quadball Varsity Captain
- ♥ Ultimate Frisbee Varsity Team
- ♥ High Ropes Course Facilitator
- ♥ Outdoor Recreation Trip Leader
- ♥ Soccer Recreation League
- ♥ Piano
- ♥ Reading Fantasy Novels
- ♥ Solving Various Rubik's Cubes

# **EDUCATION**

# University of Richmond

- **A**ugust 2018 May 2022
- Richmond, VA
- Bachelor of Science in Mathematics and Computer Science
- Departmental Honors in Computer Science
- GPA: 3.89/4, summa cum laude
- Undergraduate Rank: 73/762

#### Relevant Coursework

Machine Learning • Advanced Linear Algebra • Data Structures Software Systems Development • Algorithms • Computer Security Programming Languages • Android Programming

# **I** EXPERIENCE

## Independent Researcher

University of Richmond

- **August 2021 May 2022**
- **?** Richmond, VA
- Developed provably robust deep learning explanation methods for image classifiers using Python
- Reviewed literature and collaborated with Univ. of Florida colleagues to edit prototype code
- Presented findings in honors thesis and gave oral presentation to university community

#### Academic Tutor

University of Richmond

- Richmond, VA
- Individually tutored 20+ students in Data Structures, Computer Organization, Algorithms, Discrete Structures, Software Systems Development, and Introduction to Computing
- Held weekly drop-in hours for undergraduate computer science students

#### Research Assistant

University of Richmond

- May 2021 July 2021
- **?** Richmond, VA
- Applied explanation methods to deep learning voice processing systems using Python
- Explored current explanation models and adversarial attacks and defenses with 7-student team
- Presented findings with research team in oral and poster presentations to university community

#### Research Assistant

University of Richmond

- May 2020 July 2020
- **?** Richmond, VA
- Explored motion planning for car-like robot models with an emphasis on safety using Python
- Worked with research team to define and sample medial axis structures in state space
- Collectively updated and expanded large-scale existing C++ motion planning code base