

# Darian Nwankwo | Curriculum Vitae

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- I am interested in the mathematical foundations of machine learning and AI and its application to scientific domains.
- **Research Interests:** Bayesian Optimization ◇ Machine Learning ◇ Artificial Intelligence ◇ Scientific Computing ◇ High-Performance Computing

## Professional Experience

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- **Applied Research Intern** **Mountain View, CA**  
May 2023–August 2023  
*LinkedIn*  
Project: [Confidential]
  - Collaborated with the Applied Research team to address a proprietary forecasting challenge related to 9-figure hardware allocation.
  - Developed a cutting-edge predictive model using Python, resulting in a remarkable 13.39% performance improvement over the existing methodology.
  - Contributed to the advancement of software engineering practices while maintaining strict adherence to confidentiality requirements.
  - Gained hands-on experience in model development, software engineering, and applied research in a dynamic industry environment.
- **Scientific Machine Learning Research Intern** **Austin, TX**  
May 2022–December 2022  
*AMD Research*  
Project 1: Integrating Machine Learning in High-Performance Computing applications to reduce communication  
Project 2: Developing Scalable and Heterogeneous Accelerator Programming Environments for ML in High-Performance Computing Applications
- **Graduate Student Researcher** **Ithaca, NY**  
August 2018–Present  
*Cornell University*  
Thesis Topic: Algorithms for Multi-step Look-ahead Bayesian Optimization
- **Analog AI Research Intern** **San Jose, CA**  
May 2021–August 2021  
*IBM Research*  
Project: Making the (Data-)Trains Run on Time: Towards Local Control of 2D-Mesh Routing for Analog AI
- **Dialog Systems, NLP and Automatic Speech Recognition Intern** **Ithaca, NY**  
May 2018–August 2018  
*Adobe Research*  
Project: Integrating voice and gesture commands to manipulate 2D images.

## Education

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- **Cornell University** **Ithaca, NY**  
2018–Ongoing  
*PhD in Computer Science*  
Advisor: David Bindel
- **Cornell University** **Ithaca, NY**  
2022  
*MSc in Computer Science*  
Advisor: David Bindel
- **Morehouse College** **Atlanta, GA**  
2018  
*BS in Computer Science*  
Advisor: Shelby Wilson

## Patents, Publications & Presentations.....

- **UQ Methods for ML-based Surrogate Models of Scientific Applications** **Abstract**  
*NeurIPS 2022 Workshop Machine Learning and the Physical Sciences* 2022  
Basu, K., Hao, J., Hintz, D., Shah, D., Palmer, A., Hora, G., Nwankwo, D., White, L.
- **Artificial Intelligence Method for Accelerating Physics Simulations** **Abstract**  
*Pending Patent* 2022  
Hora, G., Nwankwo, D., White, L.
- **Strategies for Non-myopic Bayesian Optimization** **Abstract**  
*INFORMS 2022 Annual Meeting, Flash Paper* 2022  
Nwankwo, D., Bindel, D.

## Select Awards and Honors.....

- **RTG: Dynamics, Probability, and Partial Differential Equations in Pure and Applied Math**  
*Cornell University* Spring 2021
- **National GEM Consortium Fellowship**  
*Cornell University* Fall 2018 – Spring 2019

## Technical and Professional Development

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### Technical Skills.....

- **Programming Languages:** Proficient in: Julia, Python. Intermediate in: C++, JavaScript, Bash. Working Proficiency: R, Matlab

### Professional Development.....

- **Alan Alda Center for Communicating Science** Mathematics Communication Workshop with Alda Center