

Oreofe Solarin

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EDUCATION

Case Western Reserve University

Cleveland, OH

B.S. in Applied Mathematics and Computer Science (AI Minor); GPA: 3.5

Aug. 2022 – May 2026

- CS Relevant Coursework: Computer Security, Compiler Design, Machine Learning, Graph Theory, Algorithms
- Math Relevant Coursework: Intro. Abstract Algebra, Linear Algebra, Graph Theory(Grad Level), Real Analysis, Scientific Computing

The College of Wooster

Wooster, OH

Mathematics and Computer Science (Transferred); GPA: 3.8

Aug. 2021 – May 2022

- Relevant Coursework: Data Structures and Algorithms, Combinatorics, Machine Intelligence, Computational Linear Algebra

PUBLICATIONS

An Empirical Study on Reproducible Packaging in Open-Source Ecosystems

ICSE 2025 (Accepted)

- Giacomo Benedetti, Oreofe Solarin, Courtney Miller, Greg Tystahl, William Enck, Christian Kästner, Alexandros Kapravelos, Alessio Merlo, Luca Verderame. "An Empirical Study on Reproducible Packaging in Open-Source Ecosystems."

Proving Security Properties via Preservation

Under Review

- Oreofe Solarin, Twain Byrnes, and Limin Jia. Manuscript under preparation for submission.

Uncertainty Analysis of XRD Images Using Information Entropy

Under Review

- Ozan Dernek, Oreofe Solarin, et al. Manuscript under preparation for submission.

AWARDS

2024 Gilman Scholarship October Recipient

Fall 2022/ Spring 2023 Dean's List Recipient

EXPERIENCE

Undergraduate Research Fellow

Aug. 2024 – Present

SDLE Research Center, Case Western Reserve University

Cleveland, OH

- Conducted uncertainty analysis of XRD images using Information Entropy.
- Developed algorithms to compute image centers leveraging advanced mathematical techniques.
- Applied programming skills to write scripts and run experiments for XRD image processing.

Teaching Assistant - CSDS 132: Intro to Java Programming

Aug. 2024 – Dec. 2024

Case Western Reserve University

Cleveland, OH

- Assisted students with understanding object-oriented programming and Java concepts.
- Graded assignments, facilitated discussions, and provided office hour support.

Undergraduate Research Fellow (REU)

May 2023 – Present

Carnegie Mellon University

Pittsburgh, PA

- **Advisor and PI: Prof. Limin Jia, CMU**
- Investigated information flow security and developed proofs for non-interference in type systems.
- Collaborated with researchers to design secure programming languages.
- NSF Funded REU program

Software Engineer

Nov. 2023 – Present

Gameplay (Remote)

- Developed mobile applications using Flutter and Dart, achieving a 30% improvement in UX.
- Integrated backend APIs with Django to manage application data efficiently.

Undergraduate Research Fellow (REU)

May 2023 – Present

Carnegie Mellon University

Pittsburgh, PA

- **Advisor and PI: Prof. Christian Kästner, CMU**
- Conducted research on Reproducible Builds for Software Supply Chain Security.
- Authored a paper on the Comparative Study of Reproducible Builds in Open-Source Ecosystems (Accepted for ICSE 2025).
- NSF Funded REU program

Undergraduate Research Fellow

May 2023 – July 2023

College of Wooster

Pittsburgh, PA

- Worked as a student researcher on Graph Theory, focusing on the Cops and Robbers problem.

Research Assistant, Advisor: Prof. Matthew Krain

May 2023 – July 2023

College of Wooster

Pittsburgh, PA

- Designed and implemented a Python WebCrawler script to download relevant political science web texts.
- Used multithreading to optimize data downloading and analysis, leveraging libraries like BeautifulSoup and NLTK.

TECHNICAL SKILLS

Languages: Python, C++, Dart, Java, JavaScript, MATLAB

Web Development: Django, Flutter, REST APIs

Machine Learning: TensorFlow, Scikit-learn, NumPy, Pandas

Tools: Git, Docker, Jupyter Notebook

PROJECTS

Bézier Curve Interactive Visualization Playground

GitHub Repository

- Developed an interactive Flutter application for visualizing cubic Bézier curves.
- Enabled dynamic control of endpoints and control points to update the curve and equations in real time.
- Inspired by concepts learned in Math 330 with Prof. Wanda Strychalski, demonstrating mathematical properties and computational techniques.
- Live demo: Bézier Curve Visualization.

Popcorn Analysis Visualization

GitHub Repository

- Explored mathematical and graphical representations of piecewise functions and their continuity properties.
- Analyzed and visualized rational and irrational points within defined intervals to study continuity and discontinuity.

Flutter Paystack Payment Plugin

Pub.Dev

- Developed a verified Flutter plugin for seamless Paystack payment integration.
- Achieved 20 likes and 64 downloads with significant adoption among developers.

ACTIVITIES

Risk Manager for CWRU Cycling Club

- Lead Sprinter in CWRU Cycling Club.
- Conducting risk assessments for competitions and practices.

Open-Source Contributor

- Maintaining and Contributing open-source packages on GitHub, Pub.Dev, and NPMJS.