

# DYLAN JACOBS

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## EDUCATION

**Swarthmore College** Philadelphia, PA Aug 2023—May 2027  
Bachelor of Science in General Engineering & Bachelor of Arts in Applied Mathematics  
Relevant Coursework:  
- Electrical circuit analysis, mechanics, data structures & algorithms, computer engineering  
- Ordinary & partial differential equations, numerical methods for differential equations  
GPA: 3.95/4.00

## COMPUTER SKILLS

**Programming Languages:** Python, MATLAB, Java, C++, C#, Kotlin  
**Software:** VSCode, MATLAB, Git, SolidWorks, AutoCAD, MS Office  
**Foreign Languages:** Spanish (Fluent), Global Seal of Biliteracy (2022)

## RESEARCH AND INTERNSHIP EXPERIENCE

**Swarthmore College Mathematics Department** Swarthmore, PA Jan 2024-present  
**Applied Mathematics Research Assistant**  

- Utilizing principles of computational fluid dynamics and numerical methods to research high-order accurate methods for time-dependent partial differential equations (PDEs), plasma/kinetic models.
- Used MATLAB to implement PDE-solvers
- Presented research results at Swarthmore *Sigma Xi* poster session.
- Developing a novel low-rank, structure-preserving, highly accurate integrator for the Vlasov-Fokker-Planck equation in cylindrical coordinates; documenting research results in LaTeX journal

**Swarthmore College Engineering Department** Swarthmore, PA Dec 2023—May 2024  
**Electrical Engineering Research Assistant**  

- Researched electrical and aerospace science behind oscillatory wind-energy devices to develop a novel, small-scale wind-energy harvester.
- Used MATLAB and Arduino to record and analyze voltage data from electromagnetic induction.
- Simulations done using Arduino, MATLAB and ViscousFlow.

**Oregon Health and Science University** Portland, OR Jun 2022—Aug 2022  
**Software Engineering Summer Intern**  

- Developed mobile Android app in Kotlin
- Attended and presented weekly project updates and machine learning meetings; presented machine-learning paper to reading group.

**Oregon Health and Science University** Portland, OR Jan 2021—Jun 2021  
**Data Analyst Intern**  

- Used statistical models in Python to predict the time and date of female patient parturition.
- Attended weekly machine-learning presentations; analyzed large biomedical datasets in Python

## PROJECTS

**AI Python Stock Trading Algorithms**, Algorithm development project, [link](#) Mar 2022—Feb 2023  

- Created Python algorithms to trade stocks based on various quantitative metrics.
- Gained experience in Python, artificial intelligence, automated decision making.

**Generative Adversarial Network (GAN)**, Machine-learning project, [link](#) Mar 2022—Feb 2023  

- Implemented Python AI algorithm trained on abstract art datasets to create computer-generated artwork.
- Gained experience in Python machine-learning, artificial intelligence, realistic image generation.

**FireSale**, Mobile Android app development project, [link](#) Aug 2020—Jun 2021  

- Used Java and AWS to develop Android app to simultaneously reduce food waste and hunger.
- Gained experience in Java, AWS backend, user authentication, database querying

## EXTRA-CURRICULARS

**Swarthmore Men's Varsity Soccer** Aug 2023—present  
**Swarthmore College Computer Society** Jan 2024—present  

- Collaborated with peers to develop carpool website using Typescript and Node.js

## HONORS

**Donna Prentice Memorial Scholarship**, American Society of Civil Engineers Feb 2024  
**National Merit Scholarship**, National Merit Scholarship Corporation Apr 2023