

# Farhan Sadeek

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## EDUCATION

**DUBLIN COFFMAN HS**  
HIGH SCHOOL DIPLOMA  
MAY 2025 | DUBLIN, OH  
Cum. GPA: 4.56 / 4.0  
AP Physics C: Mechanics  
AP Physics C: Electricity & Magnetism  
AP Calculus BC  
AP Computer Science A  
AP Chemistry  
AP World & US History  
AP Macro/Microeconomics\*

**THE OHIO STATE UNIVERSITY**  
DUAL ENROLLMENT IN HIGH SCHOOL  
MATH/STAT, PHYSICS, CS, ECE  
AUG 2025 | COLUMBUS, OH  
Cum. GPA: 3.826 / 4.0  
Number Theory\*  
Real Analysis\*  
Abstract Algebra\*  
Mathematical Statistics\*  
Relativity / Quantum Mechanics\*  
Probability Theory  
Classical Mechanics  
Mathematical Logic and Proofs  
Partial Differential Equations  
Linear Algebra  
Multi-variable Calculus  
Discrete Mathematics  
Data Structures  
Object-Oriented Programming  
Software Development and Design  
Engineering Physics

**STANFORD UNIVERSITY**  
STANFORD, CA  
Data Analysis with Python  
Data Structures and Algorithms  
Statistics and Machine Learning

\* Current year courses

## SKILLS

### PROGRAMMING

Over 5000 lines:  
Java • C++ • Python • Javascript  
HTML • CSS • LaTeX  
Over 1000 lines:  
C • R • CSS • MySQL

### TOOLS & FRAMEWORKS

Tableau • Tidyverse • Tensorflow  
React • PyTorch • Excel • Pandas  
Plotly

## AWARDS

**2024**  
Ohio State Hackathon Winner  
USA Computing Olympiad Gold  
Gates Scholarship Semifinalist  
**2023**  
Ohio State Hackathon Winner  
**2022**  
AP Scholar with Distinction  
Ohio State Hackathon Winner  
**2021**  
Physics Olympiad Semifinalist  
Chemistry Olympiad Semifinalist

## ACTIVITIES

Competitive Programming Club  
Big Data and Analytics Association  
Artificial Intelligence Club  
Google Developer's Club

## EXPERIENCE

**THE OHIO STATE UNIVERSITY | STUDENT ASSISTANT INSTRUCTOR**  
Jan 2025 – Present | Columbus, OH

- Assisted in teaching CSE 2231: Software Development and Design, providing guidance on object-oriented programming principles, design patterns, and software engineering best practices.
- Conducted lab sessions and office hours to support students in understanding course material, debugging code, and completing assignments.

**EXPEDIA GROUP | SOFTWARE ENGINEER**  
June 2024 - Aug 2024 | Seattle, WA

- Developed machine learning models to analyze travel data and identify growth opportunities, leading to an **18%** increase in customer retention and a **22%** boost in booking accuracy.
- Streamlined competitor benchmarking by automating data aggregation processes, reducing analysis time by **40%** and improving actionable insights delivery by **30%**.
- Collaborated with engineering and product teams to integrate market intelligence into platform enhancements, resulting in a **25%** improvement in user experience scores and a **15%** reduction in customer churn.

**SPECTRUM | TECHNICAL SOLUTIONS ENGINEER**  
June 2023 - April 2024 | Columbus, OH

- Advised over **200** clients monthly on network solutions, including VoIP, MPLS, and SIP technologies, contributing to a **12%** increase in long-term contract renewals and a **20%** reduction in support tickets.
- Designed and presented technical proposals tailored to client needs, achieving a **25%** rise in sales conversions and a **30%** increase in customer engagement metrics.
- Collaborated with sales teams to provide technical insights, leading to a **15%** improvement in team productivity and boosting client satisfaction scores by **18%**.

**RENAISSANCETECH | SOFTWARE ENGINEER**  
May 2024 - Aug 2024 | Dublin, OH

- Developed and maintained dynamic, high-performance web applications using React, achieving a **30%** increase in user engagement, a **25%** reduction in page load times, and a **40%** increase in feature adoption within 6 months.
- Implemented 10 reusable components and optimized front-end architecture, reducing development time by **20%** and boosting user satisfaction scores by **15%** through improved UI/UX.

**NETSTEADY | AUTOMATION PROGRAMMER**  
May 2024 - Aug 2024 | Hilliard, OH

- Designed and implemented automated testing frameworks and scripts, achieving a **35%** reduction in manual testing efforts and a **20%** increase in bug detection rates, alongside a **30%** decrease in system outages due to proactive monitoring.
- Created custom automation solutions for data processing and system integration, increasing operational efficiency by **40%**, reducing system downtime by **15%**, and leading to a **20%** improvement in team productivity through comprehensive documentation and training.

## PROJECTS

### COLLEGE NOTES

- Created detailed LaTeX notes for Physics, Math, and CS classes, including equations, diagrams, and code snippets for clarity.
- Organized notes by semester and subject for easy reference, continuously updating them based on lectures.
- Hosted notes on my website for peer access, facilitating collaborative learning and resource sharing.

### QUANTIFYAI

- Conducted a comprehensive analysis of financial data from 2007 to 2022, using data from 2007 to 2018 for training a predictive model and data from 2019 to 2022 for testing.
- Developed and implemented a machine learning model to forecast stock prices, achieving a Sharpe ratio of 1.1, which indicates a significantly higher return per unit of risk compared to the S&P 500 benchmark.
- Utilized Python libraries such as Pandas, NumPy, Scikit-learn, TensorFlow, Matplotlib, and Seaborn for data preprocessing, feature engineering, model training, evaluation, and generating detailed performance reports and visualizations.

### SIGNIFYAI

- Developed a real-time emotion detection system that parses the entire screen of a laptop and runs a machine learning model locally to predict emotions.
- Implemented an assistive speech detection feature for individuals with speaking disabilities, enhancing accessibility and communication.
- Achieved efficient machine learning inference by optimizing computational workflows, balancing algorithmic complexity with the limitations of embedded systems.

## RESEARCH

- Investigated the impact of natural disasters on individuals with diverse identities under the guidance of Dr. Kelsea Best, analyzing patterns in disaster response and resilience.
- Utilized Python (Pandas, Matplotlib) and R (Tidyverse, ggplot2) for data preprocessing, visualization, and statistical analysis, delivering comprehensive insights and reports to aid ongoing research.