Farhan Sadeek

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EDUCATION

DARTMOUTH COLLEGE
AB in Math, CS, Economics
June 2029 | Hanover, NH
Cum. GPA: 4.0 / 4.0

THE OHIO STATE UNIVERSITY
Dual Enrollment in High School
Math/Stat, Physics, CS, ECE
Aug 2025 | Columbus, OH
Cum. GPA: 3.7 / 4.0
Number Theory
Abstract Algebra
Real Analysis
Mathematical Statistics
Relativity and Quantum Mechanics
Probability Theory
Classical Mechanics
Mathematical Logic and Proofs
Ordinary Differential Equations
Partial Differential Equations
Linear Algebra
Multi-variable Calculus
Discrete Mathematics
Data Structures
Object-Oriented Programming
Software Development and Design

DUBLIN COFFMAN HS
High School Diploma
May 2025 | Dublin, OH
Cum. GPA: 4.55 / 4.0
AP Physics C: Mechanics
AP Physics C: E M
AP Calculus BC
AP Computer Science A
AP Chemistry
AP Macro/Microeconomics*

LINKS

Github: SadeekFarhan21
LinkedIn: farhansadeekde110

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 — notes.farhansadeek.com

- 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.

PERSONAL PHOTOGRAPHY — photos.farhansadeek.com

- Used a pre-built `react` template to efficiently create a dynamic portfolio website showcasing photography projects.
- Integrated a user-friendly interface with smooth animations and a responsive design to attract and engage visitors effectively.
- Used an image optimization library to reduce loadtime while keeping the visual quality intact, resulting in an improved user experience.

QUANTIFYAI — github.com/sadeekfarhan21/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 — github.com/sadeekfarhan21/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.