Rayan Minhaj

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EDUCATION

The Pennsylvania State University, College of Engineering　　　　　　　　　University Park, PA
Bachelor of Science in Computer Science – GPA: 4.0/4.0　　　　　　*August 2024 – May 2028 (Expected)*
- Courses: Data Science, Discrete Mathematics, Linear Algebra, Programming Fundamentals, Calculus I–II, Physics, Foundations of Artificial Intelligence & Machine Learning, Statistics

EXPERIENCE

3D Scanning and Robotic Arm Integration for Intelligent Systems　　　　　University Park, PA
Undergraduate Research Assistant　　　　　　　　　　　　　　*September 2025 – Present*
- Collaborated with a 5-member team to integrate 3D scanning with robotic automation, improving mapping precision by 35%.
- Programmed arm motion using Python, C++ and ROS, synchronizing image capture with real-time positioning.
- Tested point-cloud alignment algorithms and maintained experiment logs for system integration.

Chaiken Center for Student Success　　　　　　　　　　　　　　University Park, PA
Peer Tutor　　　　　　　　　　　　　　　　　　　　　*August 2025 – Present*
- Tutored 25+ students in CS and Math, driving a 15–20% rise in academic performance through tailored lessons.
- Designed visual learning modules using Python, Java and interactive tools to simplify complex algorithms.
- Collaborated with faculty to enhance peer-mentoring methods and tutoring efficiency.

Sohail Ahmed & Associates　　　　　　　　　　　　　　　　　Kolkata, India
Intern　　　　　　　　　　　　　　　　　　　　　　*May 2025 – June 2025*
- Processed 100+ financial entries across 8–10 clients using Tally ERP, ensuring 100% reporting accuracy.
- Automated tax computations in Python, cutting manual workload by ~30%.
- Streamlined Excel workflows for invoicing and tracking, reducing errors by 20%.
- Supported tax filing and compliance documentation under senior supervision.
- Proposed digital workflow improvements for repetitive accounting operations.

PROJECTS

The Vizzard - Election Analyzer | *Java, Apache POI, Swing*　　　　*Blog Post* | *GitHub*
- Parsed 50+ state files and 3K+ county rows with POI to compute popular/EV tallies.
- Built Swing dashboards to visualize margins and winners with on-demand state summaries.
- Added partial-report simulation to forecast shifts, improving projection stability ~20%.

StudyBuddy – Smart Scheduler | *Python, OOP, Matplotlib*　　　　*Blog Post* | *GitHub*
- Matched tasks to availability via deadline-aware scheduling, raising planned study hours utilization ~30%.

21Arena – Blackjack Simulator | *Python, OOP, DS (Stack/Queue)*　　*Blog Post* | *GitHub*
- Simulated 10K+ hands using custom stack/queue shoe logic and win/loss analytics.

Mathly (Interactive Math Engine) | *Python, Streamlit, NumPy, SymPy*　*Blog Post* | *GitHub*
- Shipped real-time equation solving and plotting in Streamlit with SymPy/NumPy backends.
- Added stats (mean/median/std) and matrix ops (det/inverse/multiply) with live results.
- Optimized error handling and input parsing to reduce user failures in tests by ~40%.

TECHNICAL SKILLS & INTERESTS

Programming Languages: Python, Java, C++, HTML, CSS, JavaScript, SQL
Frameworks & Libraries: React.js, Node.js, NumPy, Pandas, OpenCV, Streamlit, Arduino IDE
Developer Tools: Git, VS Code, ROS (Robot Operating System), Jupyter Notebook, TinkerCAD, Fusion 360
Concepts: Data Structures & Algorithms, Machine Learning (Beginner), Computer Vision, Web Development, Robotics & Automation, IoT Systems
Interests: Robotics, Space Exploration, FIFA, Ping Pong, Web Dev, Entrepreneurship, Digital Art, UI/UX Design