

# Mantavya Mahajan

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## EDUCATION

**The Pennsylvania State University** *College of Engineering* **University Park, PA**  
**Bachelor of Science in Computer Science and Computational Mathematics** *Graduation December 2025*

Relevant Courses: Discreet Math, Probability, Data Structure and Algorithms, OOPS GPA: 3.60/4.00  
Digital Design, Computer Architecture, System Design, Database Systems Dean's List (Fall/Spring 2022/2023) semesters

**SMEAL COLLEGE BUSINESS FUNDAMENTALS CERTIFICATE** **University Park, PA**  
Relevant Courses: Finance, Supply Chains, Marketing, International Business Operations *Graduation December 2025*  
GPA: 3.80/4.00

## Professional Experience

**Alchem International** **Delhi, India**  
*Full Stack Web Development Intern* *May 2024 – Aug 2024*

- Developed and maintained web applications using HTML, CSS, JavaScript, Bootstrap, jQuery, and PHP, implementing new features and optimizing code for better performance.
- Collaborated with cross-functional teams, conducted code reviews, and participated in daily stand-up meetings to deliver high-quality software solutions.
- Used Git for version control, and JIRA for project management, and managed MySQL databases to ensure data integrity.

**Penn State College of Engineering** **State College, PA**  
*Research Assistant* *Jan 2024 – Dec 2024*

- Researched solar max and min phenomena, collaborating with researchers from London, Netherlands, and Turkey.
- Developed an algorithm to detect solar events with 70% accuracy by manually collecting and analyzing 5,000 data points.

**Penn State College of Information Science and Technology** **State College, PA**  
*Research Assistant* *Aug 2023 – May 2024*

- Contributed to OPARCS Lab at Penn State, focusing on open-source development and complex systems research.
- Collaborated with faculty and students to set up lab hardware, install critical software systems, and develop web resources.
- Participated in skills-building workshops and outreach efforts, gaining practical experience in Linux, databases, and Git/GitHub.

## Technical Skills

### Programming languages:

Python, C, Java, C#, R, C++  
MATLAB, Typescript

### Tools:

Git/GitHub, Linux, Excel,  
Microsoft Office, Power Bi

### Web Development:

HTML, CSS, JavaScript, PHP, jQuery,  
Bootstrap, Django, React, WordPress

### Machine Learning:

TensorFlow, Keras, Scikit-learn

### Databases:

MySQL, Derby Database,  
Firebase, Postgresql

### Other Skills:

Statistics, Data Analysis,  
Agile, SQL, Docker

## Projects

**AgriScience** (*Django, MySQL, Predictive Machine Learning*) *Feb 2024*

Developed the full end-to-end AgriScience platform using Django and MySQL to optimize crop growth by predicting yield and profits based on location, weather, farm size, and equipment. Integrated machine learning, APIs, and ChatGPT to provide a comprehensive growth plan tool for a hackathon project to support data-driven farming.

**DermAI** (*Python, HTML, CSS, JavaScript, Keras library, Vision Processing*) *Dec 2023*

Developed a machine learning model for acne classification, trained on thousands of images to identify acne types and severity, achieving a 70% success rate. This improved dermatological diagnostics by offering a reliable skincare assessment.

**Amazon Clone** (*React, Node.js, Firebase Database, Payment Gateways*) *June 2024*

Built an Amazon clone using React and Node.js, featuring product listings, user authentication, and cart management. Integrated Firebase for real-time data storage and implemented secure payment gateways, ensuring a smooth and user-friendly shopping experience.

## Leadership Management

**Math 140/Phys 211 Learning Assistant** *Aug 2023 – May 2024*

- Led 100+ one-on-one tutoring sessions in Math 140 and Phys 211, earning 95% positive feedback for clarity and patience.
- Demonstrated expertise in subject matter, contributing to a significant improvement in students' understanding and grades.

**EON-Head Mentor** *Aug 2023 – May 2024*

- Mentored incoming Computer Science students at Penn State, aiding their transition into the curriculum and campus life.
- Introduced new students to essential resources, fostering a strong start to their academic journey.