Saksham Mittal

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Education

University of Wisconsin–Madison — Madison, WI
B.S. in Computer Science and Economics (Math Emphasis) — *Aug. 2024 – Present*
- **Current GPA:** 3.889

Brightlands School (ICSE) — Dehradun, India
High School Diploma — *2012 – 2024*
- Grade 12: **95%** (2024); Grade 10: **96%** (2022)
- School Badge for academic and sports excellence (2023)

Experience

Research Intern — Dehradun, India
School of Computer Science, UPES University — *Summer 2023*
- Developed plant-disease classification models using **CNNs**, improving accuracy and reliability.
- Explored integration into automated detection systems for real-time monitoring and intervention.

Selected Intern — Karnataka, India
Pheme Software Pvt. Ltd. — *Summer 2022*
- Trained in **PHP**, **JavaScript**, **MySQL**, and **AWS**; designed app architectures and HCI interfaces.
- Practiced debugging and performance optimization in production-like environments.

Projects

Limit Order Book Simulation Platform — *Django, Redis, PostgreSQL, JavaScript, WebSockets* — Dec 2024 – May 2025
- Built a scalable simulation platform replicating a real-time **financial order book system**.
- Developed a **Django**-based web app with an admin dashboard for multi-order management.
- Engineered a **Redis**-powered backend achieving **sub-2s latency** and **10K+ orders/minute**.
- Implemented real-time updates using **WebSockets** and a **PostgreSQL**-backed JavaScript frontend.

Portfolio Management and Asset Pricing Analysis — *Python, Fama–French, NLP, Web Scraping, Black–Litterman* — May 2025 – Present
- Developed a **portfolio optimization system** integrating Fama–French and Bayesian Black–Litterman models.
- Automated financial data extraction via **web scraping** and computed weighted health metrics.
- Applied **NLP** on news and social media to derive sentiment-based market recalibrations.
- Delivered an automated **investment engine** improving accuracy and reducing forecast bias.

Tomato Leaf Disease Detection — *Python, TensorFlow/Keras, OpenCV* — 2023
- Applied transfer learning for multi-class classification; optimized preprocessing and augmentation pipeline.
- Outlined deployment pathway for field-ready detection to support farmers' decision-making.

Hand Gesture Recognition for Assistive HCI — *Python, CNNs, OpenCV* — 2022
- Designed CNN-based classifier for real-time gesture inputs to control basic device functions.
- Conducted small-scale user tests; results summarized in a paper later accepted by *IJRAR*.

Leadership & Service

Founder, Let's Excel Program (Saksharta Abhiyan) — India
Community STEM & Digital Literacy Initiative — *2022 – Present*
- Led computer-literacy initiatives for underprivileged children (computing, mathematics, mixed martial arts).
- Organized fundraisers and donation drives; working toward establishing a computer lab.
- Built a literacy app aggregating resources, video tutorials, and affordable institutions.

Volunteer, Aasra Foundation — India
Education Nonprofit — *2021 – 2024*
- Ran book-donation drives across 10+ societies; raised funds to equip science labs.
- Taught STEM subjects to children, improving engagement and learning outcomes.

Technical Skills

Languages: Java, Python, C/C++, PHP, JavaScript, SQL/MySQL
Frameworks/Libraries: TensorFlow, Keras, scikit-learn, NumPy, Pandas, Matplotlib, Django, OpenCV, Redis, WebSockets, NLP, Fama–French, Black–Litterman
Tools: Git, AWS, PostgreSQL, Web Scraping
Relevant Coursework: Data Structures and Algorithms, Computer Systems, Discrete Mathematics, Differential Equations, Linear Algebra, Microeconomics, Macroeconomics, Econometrics

Certifications & Workshops

Certified Game Developer (UI/UX, WhiteHat Jr); Certified Android & App Developer (Core Programming, Design Thinking, Advanced App Development); Participated in **20+** robotics workshops at **RoboClub**