UMANG JAIN

SOFTWARE ENGINEER

GitHub My website: COMING SOON

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PROFILE

Motivated student who demonstrates strong work ethic and creative ability. Extremely passionate roboticist and social entreprenuer, who constantly uses his experience in ML/AI + autonomous systems to develop innovative projects that improve lives.

EDUCATION

BACHELORS OF SCIENCE – COMPUTER SCIENCE (GRADUATING 2024)
THE PENNSYLVANIA STATE UNIVERSITY- State College, PA
GPA: 3.92/4.0 – Deans List
Relevant Coursework: Math 230 & 220, CS 132 & 221, Phys 211 and 212
Clubs: Unmanned Aerial System, Research at the Spatial Lab, DevPSU Startup, Conrad ALC, Mock Trial,

HIGH SCHOOL -THOMAS JEFFERSON HS FOR SCIENCE AND TECHNOLOGY - Alexandria, VA
Relevant Coursework: Artificial Intelligence, Computer Vision, Mobile & Web App Dev, AP Physics, Calc BC,

EXPERIENCE

RESEARCH INTERN- (2021 - PRESENT)

SPATIAL LAB – Penn State, PA
Currently working with Dr. Guoray Cai on object detection and indoor robot mapping as the only undergraduate student using a Microsoft Kinect sensor and PointNet++ software.

YJA MOBILE APP TEAM - (NOV 2021 – PRESENT)

Selected to serve on the mobile app team to develop a mobile app for IOS and Android using React Native, JavaScript, and ExpoGo. I have been responsible for numerous features including implementing secure Stripe payment in the app. Am currently working on useful feautures for an in-person convention. App has 2,000+ downloads.

SOFTWARE ENGINEER INTERN - (JUN. 2020 – DECEMBER 2020)

SLINGSHOT- *Remote*
To find a novel way to increase security in social media apps, worked an app to collect data from users on their typing to determine what makes each users typing unique. Using this I built a machine learning model that detects hackers from authentic users.

- Ensemble with tries, sentiment analysis, NLP, and more – reached an 84% accuracy in detecting hackers.
- Key features: accelerometer data, typos, tone, stylometry

AI INTERN- (2019 - 2020)

DAENIT – Fairfax, VA
Developed intelligent chatbots with ML that can schedule meetings, create incidents in ServiceNow, answer FAQ, and more to automate processes for client companies.

- Deployed AI chatbots to 5 of the companies clients

LEAD SOFTWARRE DEVELOPER & CAPTAIN - (2015 - 2021)

FIRST TECH CHALLENGE ROBOTICS - Fairfax, VA
Developed autonomous and tele-op programs with PID, path planning, motion profiling, object detection, odometry, state machines, and more to create an intelligent high performing robot.
Major accomplishments:

- 2x World Championship Team, 5x State Finalists
- Control Award Winner at State Championship for Unique Algorithms

FOUNDER – FAIR LAKES YOUTH ASSOCIATION (501©3) - (SEPTEMBER 2017 – PRESENT)

Non-profit organization aimed to make more robotics more inclusive especially in under funded areas around the world. In 5 years, have hosted 150+ events to date, lobbied congresspersons on Capitol Hill, raised $50K and started 23 new robotics teams internationally.

Projects

Opioid Overdose Prevention System
Novel three part device developed to prevent addiction to opioids and automatically detect and reverse an overdose.
- *Patent Pending*- 17/457914

S.A.F.E
Built an automated fire escape ladder for my neighbors after witnessing a house fire in order to limit smoke inhalation injury and offer easy exit.

Project PPE
Using my 3D Design skills to create 3d printed face shields, door grabbers, and acrylic intubation boxes, I helped donate a total of 11,500 PPE items for front line workers and local businesses.

TravelSimple
To help blind people navigate, I created a navigation app with Mapbox API that would give directions while also detecting objects within 3ft of the user using object detection

Othello/Sudoku/Tic-TacToe/Crossword AI
To get better at my favorite games, I developed an AI that can play/solve intelligently against me by implementing algorithms like alpha beta pruning, mini-max, Dijkstra, etc .

HandTalk
To make communicating easier for people who are hard of hearing, I used a LEAP motion sensor and C# code to translate hand motions into letters & words that are displayed on to a screen.

SKILLS

Programming Languages:
Java, Python, HTML, CSS, C#, C++, React, Swift, MATLAB
Languages:
English, German, Hindi, Telugu, Rajasthani
Other:
CAD, Premire Pro, Office 365, Pytorch/Keras/Tensorflow, GitHub, Command Line, Google Collab, Firebase

Exceptional public speaker, collaborator, and leader.

AWARDS & HONORS

- Global Conrad Innovation Challenge Winner
- 2x robotics World Championship
- Live Más $10K Scholarship Recipient
- Pro-bono patent services from Arent Fox
- Published in the Washington Post
- Hack TJ – Grand Prize Winner
- Academic Decathlon 5th in Nation
- 3x Model UN Best Delegate
- Outstanding Attorney Award- Mock Trial