Adnan Shahpurwala

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EXPERIENCE

Python Coach / Teaching Assistant @ UC San Diego *San Diego, CA*
Sep 2019 - Present

- Empower 104 students with Python 3 by helping them develop three algorithms every week. 84% of students got a grade of A/A-.
- Explain data structures and algorithms to help students improve code.
- Streamlined code grading process by writing unit tests to analyze code behaviour. Containerized it with Docker to make it system agnostic.
- Guided 25 teams to develop novel data science projects. Taught them Git (via a live coding session) to enable code collaboration.

Software Engineering Intern @ LOTO Safety Products *Dubai, UAE*
Jun 2019 - Sep 2019

- Designed and developed a full-stack, first of its kind, AI-based image recognition software (Python backend, JavaScript frontend) packaged in a cross-platform mobile app.
- The app boosted company IP, increased revenue, and saved the company 20 hours/month by reducing downtime in factory assessments.
- Achieved 90% recognition rate with ResNet50 convolutional neural network.
- Developing software with Python, JavaScript, PyTorch, React Native, and RESTful API's.

Machine Learning Intern @ Indian Institute of Technology *Kharagpur, India*
Jun 2016 - Sep 2016

- Developed a convolutional neural network to detect breast cancer from images. Read research papers to implement GPU efficient software.
- Employed OOP practices to write classes with orthogonal functionality.
- Developed test cases to check code functionality and improve debugging.
- Wrote custom data loader to implement the Extract-Transform-Load (ETL) pipeline which drastically reduced memory overhead.
- Software Prototype worked successfully which lead to a conference publication (whose acceptance rate is 20%).

PROJECTS

Autonomous AI Drone - link *Python, TensorFlow, bash, Linux, Raspberry Pi*

- Developed a drone with object detection\classification capabilities to detect fault in power lines. Helps utilities save time, money, and lives!
- Exceeded design criteria for project, and published a paper with findings for conference.
- Gained deep understanding of inter-platform communication, Python, convolutional neural networks, and real-time image processing.

Health and Food Analysis (Data Science) - link *Python, Git*

- Worked in a team of 3 to develop a data science project analyzing the price and nutrition content of food from major food chains.
- Used Selenium & Pandas to scrape data from 15 websites, then used Matplotlib and Plotly to visualize data and extract insights.

Gym app - link *JavaScript, ReactJS*

- Developed a gym app to reduce screen time with voice assist. This fun project took me under seven hours to design, develop, test, and debug!

EDUCATION

University of California (UC), San Diego
2018 - June 2020
M.S. in Electrical Engineering

Courses:

- Data science with Python
- UNIX OS design with C
- Algorithms for neural networks
- Algorithm design in robotics
- Advanced machine learning
- Deep Learning (CNN)
- Bayesian learning

American University of Sharjah, Sharjah
2013 - 2017
B.S. in Electrical Engineering

SKILLS

Languages:
Python (3 & 2), C, JavaScript (Node.js), Matlab, Java, Lua, HTML, CSS

Tools:
Git, bash, Linux, UNIX OS, AWS EC2

Frameworks:
PyTorch, ONNX, ReactJS, Flask, REST, Raspberry Pi, Arduino, TensorFlow

Robotics:
Motion planning, SLAM, Reinforcement learning, Depth perception, A*, RRT

Deep Learning:
Convolutional neural networks, Network architecture design, Data pipeline design, Debugging, Image processing