Kaivan Shah

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EDUCATION

UMASS AMHERST
M.S in Computer Science
May 2021 | Amherst, MA
Cum. GPA: 3.7 / 4.0

UT AUSTIN
BS in Computer Science
May 2017 | Austin, TX
Major GPA: 3.7 / 4.0

COURSEWORK

GRADUATE
Machine Learning
Neural Networks: Deep Learning
Computer Vision
Reinforcement Learning
Natural Language Processing
Probabilistic Graphical Models
Programming with Data Structures
(Teaching Asst 1x)
Differential Mathematics
(Teaching Asst 2x)

UNDERGRADUATE
Artificial Intelligence
Probability Theory
Linear Algebra
Object Oriented Programming
Functional Programming

SKILLS

PROGRAMMING
Over 5000 lines:
Python • Java • C/C++
Familiar:
SQL • Android • iOS
LaTeX• CSS • HTML

FRAMEWORKS
PyTorch • Hadoop • AWS

EXTRA-CURRICULAR

YJA
Northeast regional co-ordinator

TAMUHACK
Won 2nd price for GuitarHeroVR

HACKTX
Won 3rd price for JumpVR

EXPERIENCE

UBER ATG | Software Engineer Intern
June 2020 - August 2020 | San Francisco, CA

- Improved the heading of pedestrians in MultiXNet by removing 180-deg ambiguity and regressing pedestrian heading
- Reduced moving pedestrians 360-deg orientation error from 90-deg to 14-deg using Multi-bin loss
- Visualized improved orientation of stopped pedestrians after collaborating with Labeling team to get data with correct Ground Truth
- Used Michelangelo platform to train and evaluate models, and make predictions

MAGIC LEAP | Software Engineer
June 2017 – June 2018 | Austin, TX

- Automated the inspection of glass wafers (used in Mixed reality headset) by classifying defects using Deep Learning with Pytorch
- Designed a convolutional neural network that classified the wafers into two categories and achieved an accuracy of 95% on a 5K] image dataset
- The proposed method reduced the cost 10 times as wafer recovery number was be more requested and also relieved the human inspector
- Visualized the data to see a graphical map of different defects on the wafer

INTERSYSTEMS | Release Engineer
Sept 2018 – Sept 2019 | Boston, MA

- Built Docker containers to push applications into a test environment and automated tests using scripts in bash and python
- Monitored regular builds and maintained the CI/CD pipeline using quickbuild

GOOGLE SUMMER OF CODE | Open Source Contributor
May 2015 – Aug 2015 | San Francisco, CA

- Built a Genetic Programming prototype that evolved arbitrary programs

RESEARCH PROJECTS

Multi-modal Image Captioning
Guide: Prof. Mohit Iyyer — Sep. 2020 – Current

- Leveraged OCR token embeddings in image captioning models to improve their performance on VizWiz dataset
- Our AoANET model with extended vocabulary outperforms the baseline with a CIDEr score of 53.84

Study of Citation Sentences in the Scientific Literatures
Guide: Chan Zuckerburg Insitute/Gully Burns — Jan. 2020 – May. 2020

- Used citation sentences(that provide a formal reference to a source) to identify the claim it makes in the referenced source
- Our model performed better than the baseline with a MAP accuracy of 39% and ROUGE-2 score of 0.299

Segmentation of Cloud Structures
Guide: Prof. Subhransu Maji — Aug. 2019 – Dec. 2019

- Multiclass segmentation of the cloud patterns using UNet and Mask RCNN
- Achieved an accuracy of 63.7% by using a weighted average ensemble of the two models