Sumedh Godbole

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Education

Arizona State University

Tempe, AZ, U.S.A

Master of Science in Computer Science {GPA : 3.83/4.0} *August 2019 - May 2021*

- Specialization : Artificial Intelligence

Relevant Graduate Courses

- Applied Cryptography (C++), Fundamentals of Algorithms, Perception In Robotics, Topics in NLP, Data Visualization (JavaScript)

Sant Gadge Baba Amravati University

Amravati, Maharashtra, India

B.E. in Computer Science and Engineering {GPA : 9.11/10.0} *March 2013 - September 2017*

- Ranked *7th* on the university merit list for Computer Science (2017)

Technical Proficiency

Languages

- Python, Java, C++, C#, HTML5 / CSS3, JavaScript, SQL

Simulators /Frameworks / IDEs / Libraries

- CARLA, MORSE, ROS, Gazebo, OpenCV Tensorflow, Torch, Theano, Keras, Seaborn, Matplotlib, Scikit-Learn, Google Firebase, Android Studio, AWS, GCP, Jupyter Notebook , Anaconda, Lapsy (3d Point-Cloud Processing)

Certificates

- Computer Vision : OpenCV, SSD and GANs, Machine Learning, Deep Learning, Android Development, AWS Fundamentals Specialization

Work Experience

Active Perception Group

Tempe, AZ

Graduate Services Assistant *May 2020 - May 2021*

- Facilitated increments to Perception research at ASU APG for the Summer'20 semester involving Robotics, Computer Vision, Autonomous Vehicles and Safety Metrics
- Developed a new formulation for Pursuit-Evasion games that lead to the building of a robust and pragmatic pursuit agent
- Improved the capture time of conventional camera-based pursuers by more than 25% using prediction-based pursuit models
- Submitted a research paper to the International Conference on Robotics and Automation (ICRA)

Arizona State University

Tempe, AZ

Graduate Teaching Assistant *August 2019 - December 2020*

- Instructed undergraduate students for the course CSE 110 - Principles of Programming (Java)
- Conducted recitations which consisted of live coding sessions, held Office Hours and graded examinations for class of 100+ students

Sahir Projects

Pune, India

Machine Learning Engineer *July 2018 - July 2019*

- Engineered a Machine Learning proof-of-concept exercise resulting in the eventual adoption of a Machine Learning framework by the company
- Synthesized 100k training samples for the exercise by making use of random normal distributions, labeled using a complex rule based system
- Designed a machine-learning pipeline to predict the probability of winning a bid using a Random Forest classifier for exhibiting low bias, resulting in 3x more monthly bids placed
- Pioneered a 9% increase in the number of bids won compared to the last financial quarter

Projects

Online Prediction for Vision-based Active Pursuit using Domain Agnostic Offline Motion Model

IEEE ICRA'21

Python, Tensorflow, PyTorch, OpenCV

- Proposed the use of an encoder-decoder LSTM as a predictive model that can produce more accurate estimations of an evader's future location (upto 0.019 meters) when compared to conventional methods
- Evaluated effectiveness of this approach by setting up pursuer and evader vehicles in a MORSE environment which showed a 26% faster capture of the evader
- Generated empirical proof showing the proposed method to be domain agnostic i.e, without the explicit need to retrain the prediction module by evaluation in a CARLA environment (low mean prediction RMSE over 100 runs)

The Scope of Human Computer Interaction

Java, XML, OpenCV, Android Studio

- Designed an Android application to help obtain information about any location viewed from the device camera, elevating the UME rating for conventionally used Navigation Interfaces from 3.5 to 4.7/5.0
- Supervised the process of constructing the interface featuring an Augmented-Reality overlay containing information about the target location on the screen of the host device
- Implemented the pipeline for processing raw sensor data and rendering the overlay by leveraging the Android Studio IDE reducing on-device execution times by 10%
- Led a 4-member team to the first place in National Paper Presentation Threshold'17

Honors & Awards

2021 **The Master's Opportunity for Research in Engineering (MORE)**, Ira A. Fulton Schools of Engineering *ASU*

2020 **Engineering Graduate Fellowship (Fall, Spring)**, Ira A. Fulton Schools of Engineering *ASU*

2019 **Engineering Graduate Fellowship (Fall)**, Ira A. Fulton Schools of Engineering *ASU*