

EDUCATION

Masters, Computer Science, Arizona State University | GPA 3.92 *August 2017 - December 2019*
Bachelor of Technology, Computer Science & Engineering, India | GPA 8.67/10 *July 2012 - July 2016*

TECHNICAL SKILLS & COURSEWORK

Languages: Python, Java, C, C++, SQL, Html, JavaScript
Databases: MySQL, SQLite
ML Technologies: Numpy, OpenCV, Pandas, Scikit-learn, Matplotlib, Tensorflow
Coursework: Foundations of Algorithm, Artificial Intelligence, Perception in Robotics, Intelligent & Assistive Robotics, Statistical Machine Learning

WORK EXPERIENCE

AI Engineer Intern | Invitae | Boston, Massachusetts *May 2019 - August 2019*

- Designed and developed a ML application to perform PHI scrubbing on unstructured medical reports. Performed NER using a Spacy and dictionary based model.
 - Designing an end-to-end object detection pipeline on a custom dataset of scanned images using traditional CV algorithms, OCR and ML models. Performing various data augmentation methods for generating a large dataset.
- Technology Stack:** Python, Numpy, Pandas, NLTK, Spacy, OpenCV, Sklearn, HTML5, JS

Software Engineering Intern | Rockwell Collins | Irvine, California *May 2018 - August 2018*

- Designed and developed an Android application for IFE which auto-detected cast enabled monitors powered by Raspberry Pi 3 and played DRM protected media on it without any internet connection.
- Technology Stack:** Python, Java, Electron, Raspberry Pi, Android Studio

ACADEMIC PROJECTS

Roblocks: An Educational System for AI Planning and Reasoning | Thesis *Fall 2018*

- Developing a visual programming interface that will dynamically populate puzzle shaped blocks encoding the robot's possible actions and allow users to write code for navigation and manipulation by connecting them instead of typing.
- Technology Stack:** Java, Python, ROS, Gazebo, PDDL, Html5, JQuery, AJAX

Anomaly Detection | Statistical Machine Learning *Fall 2018*

- Architected a hybrid model using five different machine learning models with weighted polling to detect component failures in the Air Pressure System of heavy Scania trucks. Applied various feature engineering methods to deal with inconsistent data.
- Technology Stack:** Python, Pandas, Scikit-learn, Matplotlib

Multi view 3D Object Reconstruction using Deep Neural Networks | Robotics *Spring 2018*

- Integrated ROS enabled 3D Recurrent Reconstruction Neural Network (3DR2N2) to generate the 3D shape of an object from 2D images and detected grasping poses on it.
- Technology Stack:** Python, Numpy, CNN, GRU

Smart Video Surveillance System using Deep Neural Network & POMDPs | Robotics *Spring 2018*

- Utilized a deep object detection network (YOLO) to capture an object's movements in the current camera frame which then served as evidence to a Partially Observable Markov Decision model for visual servoing.
- Technology Stack:** Python, Java, OpenCV, CNN

Comprehensive implementation of AI methods in Pacman Gaming Environment | AI *Fall 2017*

- Implemented Pacman agent in an adversarial setting using DFS, BFS, UCS, A* search, Alpha-Beta pruning, Minimax, Value functions, model-based and model-free reinforcement learning algorithm.
- Technology Stack:** Python, Tensorflow

PERSONAL PROJECTS | GITHUB

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- Designed and developed a high-performance algorithm for matrix multiplication and transpose using threads and without using any linear algebra library (C++).
 - Designed and developed programming assignments on AI search problems in ROS and the Ping Pong game for Game Trees in RVIZ. (Python, ROS, RVIZ, Gazebo).
 - Devised algorithms that can detect cars parked at multiple parking spots, compare if two cars are same or not, predict the color of a car and output each car that was detected and how long it was parked for (approximately) within a given time interval. (Python, OpenCV, Numpy, CNN).