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CHIRAV DAVE
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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, Tensorfow
Coursework:	Foundations of Algorithm, Artificial Intelligence, Perception in Robotics, Intelligent & Assistive Robotics, Statistical Machine Learning

WORK EXPERIENCE

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

Programmer Analyst Trainee | Cognizant Technology Solutions | Kolkata, India *August 2016 - June 2017*

- Redesigned and debugged existing user validation & auditing system. Upgraded front-end code of the main application.
  Technology Stack: Java Server Faces, Html5, JQuery, SOAP API

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, Convolution Neural Network, Recurrent Neural Network

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, Convolution Neural Network

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

- Designed and developed Search problems and the Ping Pong game based on Game Trees in ROS. (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, Convolutional Neural Network).
- Designed and developed a virtual math teacher that can ask and answer questions on basic addition, subtraction, multiplication, and division (AIY VoiceKit, Python).
- Architected a Convolutional Neural Network to localize a phone in an image with a minimal amount of data to train on (training images = 130; Tensorfow, Python, Numpy, Matplotlib).