

Vishnu Prem

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EDUCATION

University of Pennsylvania, School of Engineering & Applied Science Philadelphia, PA
Candidate for Master of Science in Engineering in Robotics – GPA: 3.3/4 May 2021
Courses: Design of Mechatronic Systems, Introduction to Robotics, Applied Machine Learning

Manipal Academy of Higher Education, School of Engineering & IT Dubai, UAE
Bachelor of Technology in Mechatronics Engineering—GPA: 9.46/10; Minor: Robotics and Automation Oct 2018
Research Abroad: University of Salford, UK in Spring 2018

EXPERIENCE

Penn Engineering Online Learning Philadelphia, PA
Teaching Assistant Oct 2019 - current

- Supporting online learners by answering queries on forums for 6 Robotics Specialization courses on Coursera

Mimic Production Berlin, Germany
Robotics and Animatronics Intern Mar 2019 – May 2019

- Developed software pipeline in Python for animatronic control of robot face with RaspberryPi
- Designed and prototyped mechanism for realistic humanoid robot face

Autonomous Systems and Advanced Robotics Research Centre- University of Salford Manchester, UK
Undergraduate Student Researcher Feb 2018 – May 2018

- Created algorithms for mobile robot localization using computer vision with depth camera
- Implemented obstacle avoidance using sensor fusion of multiple sonar sensors
- Deployed deep learning-based object detection model and retrained on new classes using transfer learning

Pico International Dubai, UAE
Intern- Digital Media & IT department Jul 2019 – Aug 2019

- Implemented and tested software for mechatronic exhibits at events and exhibitions

TECHNICAL SKILLS

- Software: C, C++, Python, ROS
- Libraries: OpenCV, Numpy, PyTorch, OpenAIGym

RELEVANT PROJECTS

[portfolio: vishnuprem.github.io for more]

CNN for Violence Detection from videos (2019)

- Extracted optical flow data to train CNN for detecting violent actions from videos using PyTorch and OpenCV

FMT* Planner (2019)

- Fast marching tree planner implementation in C++ with simulation in RViz using ROS

Chess Playing Robot (2017)

- Developed computer vision algorithm using Python and OpenCV for detecting move made by human
- CAD design and 3D printing of robot arm and gripper to pick and place chess pieces

Motion Tracker (2017)

- Surveillance camera that detects and turns towards detected motion using OpenCV and Python

RL for Bipedal walking (2017)

- Built and optimized a NN controller with genetic algorithm for a two-legged agent using Python and OpenAI Gym

Tic-Tac-Toe Program (2013)

- C++ program that plays Tic-Tac-Toe against a human

ACTIVITIES & OTHER ACHIEVEMENTS

Volunteer Head of Mechatronics Department for annual tech festival Technovanza'17 at MAHE Dubai • 1st Place in 'Institute of Physics' Young Lecturer Competition '18 at Manchester Metropolitan University, UK • Best Actor Award at Interhouse Drama Competition '14 SEPS, Abu Dhabi • Best Speaker at Interhouse Debate Competition'14 SEPS, Abu Dhabi