

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 May 2021
Courses: Design of Mechatronic Systems, Introduction to Robotics, Applied Machine Learning [current courses]

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

PROFESSIONAL EXPERIENCE

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

- Constructed mechanism for eyeball, jaw and eyebrow of first prototype of realistic humanoid robot face
- Wrote algorithms to use facial animation data for electromechanical control of robot facial muscles

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

- Created algorithms for indoor mobile robot navigation and localization based on visual landmarks using RGBD sensor
- Implemented deep learning based object detection model to identify landmarks & retrained model to detect new objects
- Designed and tested algorithm for utilizing sonar sensor data for complex obstacle avoidance

Coded Minds Dubai, UAE
Curriculum Developer and Instructor Jul 2019 – Aug 2019

- Drafted written instruction manuals and made video tutorials for Robotics projects
 - Conducted classes on Robotics, AR, programming and other iSTEAM topics for young learners
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TECHNICAL SKILLS

- *Programming Languages:* Python, Java, C, C#
 - *CAD software:* SolidWorks, CREO Parametric, Fusion 360
 - MATLAB, LabVIEW, HTML
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RECENT ENGINEERING PROJECTS

[portfolio: vishnuprem.github.io for more]

Chess Playing Robot (2017)

- Developed image processing algorithm for detected move made by human
- CAD design and 3D printing of robot arm and gripper to pick and place chess pieces
- Integration and control on electromechanical components to control robot arm

Gait development using Machine Learning (2017)

- Built a neural network to act as controller for a two-legged agent in simulation
- Optimized neural network using genetic algorithm to teach the agent to walk

Motion Tracking Camera (2016)

- Developed algorithm for detecting motion using computer vision
 - Programmed microcontroller to turn camera towards direction of detected motion
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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