Pragatheiswar Giri

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EDUCATION

BE in Biomedical Engineering
PSG College of Technology
Cumulative GPA: 3.9 / 4.0

MS in Electrical and Computer Engineering Technology
Purdue University
Cumulative GPA: 3.7 / 4.0

PhD in Technology
Purdue University
Current GPA: 4.0 / 4.0
In Progress

COURSEWORK

GRADUATE

Big Data Machine Learning
Bioinformatics
Machine Learning Vision For IoT
Statistical Machine Learning
Data Analytics
Programming Robots with ROS
Introduction to Robotics
(Teaching Asst. MFET 248)
Electrical Energy Systems
(Teaching Asst. ECET 376)

SKILLS

PROGRAMMING

Over 2000 lines:
C • C++ • Python • Matlab
Over 1000 lines:
•ROS • Swift

FANUC Robot Programming • Yamaha Robot Programming • Machine Learning Libraries • Matlab

CERTIFICATIONS

- Python Programming
- Machine Learning
- Neural Network and Deep Learning
- Deutsch 1

RESEARCH AND EXPERIENCE

COLLABORATIVE ROBOTICS LAB, PURDUE UNIVERSITY

Research Scholar

| Project 1

Worked with Dr. Richard Voyles in developing and optimizing a neuromorphic architecture for printable organic neurons used in a Soft Robotic Skin with zero negative weights constrain. I was majorly involved in developing the Neural Network algorithm and testing the electrical neurons. The ANN was physically implemented, tested and verified.

| Project 2

Built and Programmed a R/C race car to navigate the halls of a generated map at extreme speeds autonomously in a rally race. Utilized AMCL in ROS to acquire the IMU data and the Hokuyo LIDAR to localize ourselves in a known map and finished 3rd in KNOY 500 race.

INDUSTRY 4.0 ROBOTICS LAB , PURDUE UNIVERSITY

Teaching Assistant

- FANUC LR Mate 200id 4s and Yamaha YK600XGL Robot - Programming, Control and Operation.
- Handling Robotics course MFET248 every Spring semester since 2019.
- Tested and verified code for multiple projects.

SURGICAL ROBOTICS LAB, UNIVERSITY OF LEEDS

Research Intern

Worked with Dr. Pete Culmer and Dr. Micheal Bryant to Synthesis a Polymer Brush Surface, a polymer brush functionalised surface on a PDMS for Urinary Catheterisation. Work published at ICUR 2017.
Presented at International Conference for Undergraduate Research (ICUR) 2017

CAMARILLO LAB, PURDUE CENTER FOR CANCER RESEARCH

Bioinformatics Research Assistant

Working on a Chemotherapeutic Drug Delivery Enhancement method using Electric pulses for breast cancer cells. I optimized the electric field strength and pulse duration to increase the drug permeability in breast cancer cells. I performed multiple label-free quantitative proteomics studies on various drugs and analyzed over 30,000 proteins and genes to study the mechanism of action. Authored 4 publications with related bio-infomatics work.

PUBLICATIONS

- Extraction of Key Features and Enhanced Prediction of Breast Cancer Occurrence using Machine Learning
- Analysis of pathways in triple-negative breast cancer cells treated with the combination of Electrochemotherapy and Cisplatin.
- Cisplatin-based Electrochemotherapy Significantly Downregulates Key Heat Shock Proteins in MDA-MB-231-Human Triple-Negative Breast Cancer Cells
- Electrical pulse mediated Galloflavin delivery modulates key proliferation proteins - An Quantitative Proteomic study