GUINING PERTIN

O github/otoshuki

◦ otoshukiprojects.home.blog

RESEARCH INTERESTS

• I am interested in the field of multi-robot systems and the intersection of control theory with data-driven techniques.

RELEVANT COURSES

Mathematics

- Linear algebra
- Digital signal processing
- Detection and estimation theory
- Probability and random processes

Signal processing

- Computer vision
- Information theory and coding
- · Speech signal processing and coding
- Pattern recognition and machine learning

Control theory

- Control systems
- Control and instrumentation lab
- Modelling and simulation of dynamic systems
- Mathematical techniques for control and signal processing

Online Courses

- DroMOOC (ONERA)
- Robotics Specialization (UPenn)
- Data science bootcamp (Udemy)
- Control of mobile robots (GaTech)
- Computational linear algebra (fast.ai)
- Modeling of natural processes (UGeneva)
- Practical reinforcement learning (NRUHSE)
- Deep learning Specialization (Deeplearning.ai)

COMPETENCIES

- IELTS Academic: 8.0
- GRE Verbal, Quant: 158, 168
- Electronics: Arduino, RPi, PIC
- Programming: Python, C, C++
- Operating Systems: Linux, Windows
- Frameworks: Sklearn, Keras, Tensorflow
- Tools: MATLAB, Simulink, ROS, OpenCV

EXTRACURRICULAR

- Volunteer, Community Service.
- Mentor, Techevince exhibition.
- Mentor, SAIL for campus placements.
- Hobbies: Music, Speedcubing and reading.

Hardware Engineer, Enphase Energy

Electronics and Communication Engineering, IIT Guwahati guining.pertin.iitg@gmail.com

guini170102027@alumni.iitg.ac.in

EDUCATION

- Bachelor of Technology, Indian Institute of Technology Guwahati CPI: 8.46 2021
- Senior Secondary, CBSE Board (PCMB) 2017 Percentage: 94.6 %
- Secondary, CBSE Board 2015 **CGPA: 10**

WORK AND RESEARCH EXPERIENCE

- Senior Engineer, Hardware
 - Enphase Energy, Systems Engineering Team Jul. 21 - Present
 - Developing simulation models for microgrid forming inverters.
 - Developed drivers and automation scripts for DVT teams.
 - Performed analysis and improvements on control techniques.
- Multi-agent multi-objective optimization using DQL Doc Bachelor Thesis, Dr Hanumant Singh Shekhawat Aug. 20 - Apr. 21
 - Research on multi-agent behaviour and optimization using RL.
 - Augmented branched DDQNs with path planning algorithms.
 - Developed a novel algorithm to improve coordination in agents.
- Project Zenith: Multi UAV System Silver, Inter IIT, DRDO SASE UAV Fleet Challenge Oct. 19 - Dec. 19
 - Developed UAVs for area coverage and target detection.
 - Worked on multi-UAV energy-optimized coverage algorithms.
 - Developed a novel kernel based object detection algorithm.

TEACHING EXPERIENCE

TA, Data-Driven System Theory, EEE IITG	2022
TA, YTS Programme, Plaksha University	2020, 21
TA, Automation Lab, EEE IITG	2020

- Project Manager, Robotics Club, IITG 2019, 20
- Microcontrollers Head, Electronics Club, IITG 2019, 20
- Organizer, Computer Vision Workshop, Tech Board IITG 2019
- Organizer, Microcontrollers Workshop, Tech Board IITG 2018

ACHIEVEMENTS

- SPI: 10/10, 5th Semester, EEE IITG 2019 • Silver, Inter IIT Tech Meet, DRDO SASE Challenge 2019 • Silver, Inter IIT Tech Meet, DIC Challenge 2019 • Bronze, Inter IIT Tech Meet, TCTD Challenge 2018
- State Rank 1, Science, CBSE Board Examination 2017
- Gold, AISMTA National Maths Olympiad 2016
- Rank 1, APJEE Diploma Entrance Examination 2015

WORKSHOPS

- Attendee, Simulink Model Management, Mathworks 2022
- Attendee, Robotics: Science and Systems Conference 2020

Doc