REUBEN OOMMEN JACOB

• (929) 382 1550 • roj2009@nyu.edu • LinkedIn • GitHub • Website

SUMMARY

MS student at NYU currently pursuing a degree in electrical engineering focusing on Machine Learning, Systems and Control. Relevant experience in software engineering and student research assistantships.

EDUCATION

New York University -Tandon School of Engineering Aug.2022 - May.2024

- M.S in Electrical Engineering,
- Focus: Machine Learning, Systems and Control.
- Relevant Courses: Machine Learning, Probability and Statistics, Deep Learning, Advanced ML

Ramaiah Institute of Technology Aug.2016 - Dec.2020

- B.E Electronics and Instrumentation
- GPA: 3.1/4, Best Project Award

SKILLS

Core Competencies: Object-Oriented Programming, Microcontroller Programming, Control Systems.
Programming Languages: C, C++, Python, HTML, CSS, JavaScript.
Software and Applications: MS Office, GitHub, Energia, Jupiter Lab, Visual Studio, Eclipse,Pytorch,Anaconda
IDE's: Arduino IDE, Energia IDE, Brackets, Code Blocks, PyCharm, Google Collab, Mission Planner.

RELEVANT EXPERIENCE

Cognizant Dec.2021 - Aug.2022

Programmer Analyst Bangalore, Karnataka

- Trained as a full stack engineer in the Cognizant Associate training program.
- Streamlined the front-end development of 2 websites using HTML, CSS and JavaScript.

Ramaiah Institute of Technology Apr.2020 - Dec.2020

Student Research Assistant Bangalore, Karnataka

- Developed a robotic model for assistive rehabilitation and transportation, "Self-Balancing Cycle with Location Tracking Based on Inverted Pendulums".
- Bolstered the integration of the control system utilizing PID control algorithms.

Li2 Technologies Jan.2020 - Mar.2020

Student Intern Bangalore, Karnataka

- Involved as a student intern in the development of an IoT-based robotic rehabilitation device for transportation.
- Mobilized the development of the control system used in the project by tuning the controller to an accuracy of 80%.

Edhitha Unmanned Aerial Systems Jan.2018 - Aug.2018

Lead Navigational Engineer Bangalore, Karnataka

- Lead Navigation Engineer representing Edhitha for the AUVSI SUAS 2018 held in Maryland, USA.
- Spearheaded the team to achieve a rank of ten internationally.

Associate Developer: Navigation and Instrumentation Engineering Oct.2017 - Jan.2018

- Developed the autopilot system of the UAV by tuning the PID control parameters of the flight controller.
- Advanced the design of the feedback system by interfacing various sensors and instrumentation for the vehicle.

PROJECTS

IoT-Based Real-Time Wearable Tachycardia Monitoring System Using Machine Learning Jan.2022 - July.2022

- Fabricated a wearable heart rate monitoring system with real-time data assessment.
- Data evaluated on a server using a K-Means clustering algorithm with an accuracy of 85%.

Self-Balancing Cycle with Location Tracking Jan.2020 - Dec.2020

- Constructed an autonomous cycle, capable of static balance using a flywheel controlled by a microcontroller.
- Tuned and programmed a PID controller to mimic the properties of an inverted pendulum.

GPS location tracker with SOS capabilities Apr.2019 - Aug.2019

- Created a portable location tracking system with multiple tracking modes using a microcontroller and peripheral GPS and GSM modules.

Unmanned Aerial System for reconnaissance and surveillance June.2017 - Aug.2018

- UAV capable of autonomous take-off, landing and flight, image capture, object detection and avoidance, mapping, air delivery and real-time data transmission of telemetry and surveillance data.

PUBLICATIONS

- **Jacob, R.O**, M.K. Pushpa, Shoaib M Alyaan, Arunabha Mitra, Chidroop Sagar, K Anitha, “Self-balancing Bicycle with Location Tracking Based on the Principle of Inverted Pendulums,” Computational Intelligence in Pattern Recognition, Advances in Intelligent Systems and Computing, vol 1349. Springer, Singapore.
- **Jacob, R.O**, Niranjana Murthy, H.S. (2023). IoT-Based Real-Time Wearable Tachycardia Monitoring System Using Machine Learning. In: Gupta, M., Ghatak, S., Gupta, A., Mukherjee, A.L. (eds) Artificial Intelligence on Medical Data. Lecture Notes in Computational Vision and Biomechanics, vol 37. Springer, Singapore.
- **Jacob, R.O**, S. M. Alyaan, K. Nikitha and H. S. Niranjana Murthy, "IoT Based GPS tracking system with SOS Capabilities," 2022 International Mobile and Embedded Technology Conference (MECON), 2022, pp. 72-75, IEEE.