

GIRISH KUMAR KANNAN

girishkumar.kannan@gmail.com
(407) 633-8501

<https://www.linkedin.com/in/girish-kumar-kannan>
<https://www.github.com/GirishKumarK>

1050 7th Street #2,
Miami Beach, Florida, 33139.

SUMMARY

An M.S.Cp.E graduate with 3 years of professional computer engineering experience and a wide range of technical skills. Focused in Robotics, Computer Vision and Machine Learning. Excels at Programming, Electronic Circuit Design and Sensors/IoT. Versatile and hardworking, passionate towards contributing to a team to accelerate outcomes and goals. Takes personal responsibility and accountable to assigned tasks. Motivated towards developing quality technologies, systems and processes.

EDUCATION

University of Central Florida, Orlando, Florida, USA.

August 2016 – May 2018

Master of Science in Computer Engineering

CGPA: 3.5 / 4.0

Related Coursework: Advanced Artificial Intelligence, Machine Learning, Intelligent Systems, Computer Vision, Control Systems, State Estimation, Digital Signal Processing, Adaptive DSP, Neuroscientific Systems, Modeling and Simulation.

Related Projects:

- Prediction & Signal Smoothing w/ Kalman Filter: Engineered robot & algorithm to obtain Magnetic Heading from Digital IMU.
- Occupancy Grid-based 2D-SLAM Robot: Deployed A-Star Search and Reinforcement Learning techniques to navigate a robot that can Simultaneously Localize and Map a quasi-stochastic region using Occupancy Grid model.
- Multi-Detection Computer Vision : Developed a set of Computer Vision algorithms to make a webcam detect hand gestures as mouse commands and perform Optical Character Recognition as well, on a real-time basis.
- Mini-Projects in Computer Vision: Implemented and presented common Computer Vision Algorithms and Convolutional Neural Network based Image and Action Sequence Classification – all from scratch using Scikit-Learn and Tensorflow in Python.
- Programmed and compared several Machine Learning algorithms to datasets to understand the efficiency of every algorithm.
- Designed and demonstrated various Signal Filters and Processing techniques to analyze the efficiency of each design.

SRM University, Chennai, Tamil Nadu, India.

August 2011 – May 2015

Bachelor of Technology in Mechatronics

CGPA: 8.9 / 10.0

Related Projects:

- Autonomous Robot Swarm for Goal Searching: Designed a limited three-agent based swarm that uses Alpha-Beta Coordination Algorithm for Goal Searching and Convergence for applications like search and rescue and resource foraging.
Related Publication: “*On the Estimation of Optimal Robot Heading using Savitzky-Golay and Kalman Filters*”, International Journal of Robotics and Automation, 2015.
- Gesture Controlled Mouse: Designed a Wireless Gesture-controlled Mouse using Inertial Sensor to aid people with limb-disabilities. Built and programmed an interface that translated hand gestures to cursor actions on a computer. Later applied in industry.

TECHNICAL SKILLS

Operating Systems: Windows, Linux (Ubuntu, Debian, Raspbian)

Programming Languages: Python, MATLAB, C, C++, SQL, [Java, C#, HTML, R]

Applications: OpenCV, TensorFlow, EAGLE (PCB Design), SolidWorks, Git, [ROS, Simulink, LabVIEW, Microsoft Office]

Test Equipment: Multimeters, Oscilloscopes, Signal/Function Generators, Power Supplies, Precision Toolsets, Soldering, Wiring

WORK EXPERIENCE

Robotician / Robotics Engineer, Quartile 3 Robotics, Miami Beach, Florida, USA.

Nov 2018 – Present

- Developed a program that will help take Restaurant orders using Speech Synthesis and Facial Recognition in Python.
- Designed & developed GUIs to actuate a Humanoid Robot by a Remote User, controlled through intranet & internet.
- Developed Communication Protocol for Ultra Long Range Transceiver pair. Produced error-free and loss-less transfer.
- Developed API in Python to interface a GPS RTK device. Decoded, interpreted and reformatted incoming binary data.

Adjunct Professor (EET), Valencia College (West), Orlando, Florida, USA.

Aug 2018 – Dec 2018

- Handled “Fundamentals of AC Circuits” course for students of Electrical Engineering Technology.

Computer Engineer Intern, Parsound, Orlando, Florida, USA.

Aug 2018 – Jan 2019

- Lead engineering teams of up to 10 people, conducted interviews and made important decisions.
- Designed and developed advanced DSP algorithms, signal communication strategy and device communication topologies.
- Collaborated across disciplines to make user-friendly amplifier control systems, effectively automating smart soundscapes.

DSP Engineer (Volunteer-Associate), Parseval LLC, Orlando, Florida, USA.

May 2017 – April 2018

- Developed a project that saves trapped lives in a vehicle endangered by unsafe temperatures. Procured necessary components for compact fabrication, designed circuit boards, assembled, analyzed and tested the efficacy of the design.
- Designed and programmed automated microphone stand to perceive soundscape of a room. Procured components, created CAD models and 3D printed, programmed device control, tested product design and evaluated working efficiency.