GIRISH KUMAR KANNAN

girishkumar.kannan@gmail.com https://www.linkedin.com/in/girish-kumar-kannan 1050 7th Street #2,
(407) 633-8501 https://www.github.com/GirishKumarK 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, Data Engineering and Database Systems. 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. Quick learner and problem solver.

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 A.I., Machine Learning, Intelligent Systems, Computer Vision, Digital Signal Processing.
Related Projects:

- Prediction & Signal Smoothening w/ Kalman Filter: Engineered robot & algorithm to obtain Magnetic Heading from Digital IMU using Arduino with C/C++ program.
- 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 Matlab, C/C++ and Python.
- 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 Machine Learning algorithms to datasets to understand the efficiency of every algorithm using R and Python (numpy, scipy, pandas, seaborn and scikit-learn).
- Designed and demonstrated various Signal Filters and Processing techniques to analyze the efficiency of each design using Matlab.

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 an Arduino-based three-agent swarm that uses Alpha-Beta Coordination Algorithm using C/C++ 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 an Arduino-based 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 using C/C++.

TECHNICAL SKILLS

Operating Systems: Windows (10+years), Linux (3+ years – Ubuntu, Debian, Raspbian)
Programming Languages: Python (NumPy, SciPy, Pandas, MatPlotLib, Seaborn), Matlab, C, C++, SQL, [Java, C#, HTML, R]
Applications: OpenCV, TensorFlow, Tkinter, PyQt, Git, Ms Office, Libre Office

WORK EXPERIENCE

Roboticist / Robotics Engineer, Quartile 3 Robotics, Miami Beach, Florida, USA. **Nov 2018 – Present**

- Developed a program with GUI that will help take Restaurant orders using Speech Synthesis and Facial Recognition in Python.
- Developed GUI to actuate a Humanoid Robot by a Remote User, controlled through intranet & internet using Python and Tkinter.
- 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.
- Developed APIs for all the above projects to handle automated data interaction between local and cloud SQL database servers.

Computer Engineer Intern, Parsound LLC, 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.
- Developed a program in Python to handle automatic data exchange between a software and a data file. Collected, reorganized, transformed and exported the data file to be imported directly into the software. Handled data errors and corrections.
- 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. Fabricated and designed circuit boards, assembled, analyzed and tested the efficacy of the design. Programmed using C/C++ and Python.
- Designed and programmed automated microphone stand to perceive soundscape of a room using Matlab. Procured components, created CAD models and 3D printed, programmed device control, tested product design and evaluated working efficiency.