Ateendra Ramesh

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Experience

- **Sollarillion Foundation** — **Chennai,India**
  Full Time Research Assistant & Teaching Assistant — *September 2017–Present*
  - Researched and worked on low-cost and efficient IoT solutions for gesture recognition and activity recognition and published findings in IEEE Conferences.
  - Helped students in developing problem-solving skills and taught them fundamental concepts in programming and embedded systems.
  - Administered a machine learning server and NAS system.

Education

- **SSN College of Engineering** — **Chennai, India**
  Bachelors in Information Technology, CGPA : 8.01/10 — *2013–2017*
- **SBOA School and Junior College** — **Chennai, India**
  AISSCE (Class 12), 94.2% — *2012–2013*
- **SBOA School and Junior College** — **Chennai, India**
  AISSE (Class 10), CGPA : 9.2/10 — *2010–2011*

Publications

- **Low Cost Gesture Recognition System Using MEMS Accelerometers**
  - Designed and constructed a wearable glove prototype embedded with accelerometers that recognizes static gestures.
  - Developed a lightweight algorithm in order efficiently and quickly recognize alphabets of the American Sign Language.
  - Presented at the **Global IoT Summit, 2017** at Geneva, Switzerland and published in IEEE Xplore.
  - Tools used: Arduino, C++
- **Design Optimization of Activity Recognition System on An Embedded Platform**
  - Led a team of 3 RA's to design an activity recognition engine optimized on grounds of cost, computational complexity and power consumption using data acquired in three publicly available datasets.
  - Engineered features in order to reduce computational complexity and trained various classifier models and measured overall performance in terms of time and efficiency.
  - Deployed the same in a low-cost Raspberry Pi Zero.
  - This work is to be presented at the **Future of Information and Communication Conference, 2018** at Singapore.
  - Tools used: Scikit-Learn, Tensorflow, Numpy, Raspberry Pi

Projects

- **Theater Occupancy Forecasting [Current]**
  - Working in collaboration with one of the top 3 multiplex chains in India.
  - Engineered and extracted features for forecasting occupancy of a movie's premiere from raw transactional data.
  - Developing an application to be deployed into production.
  - Tools used: Scikit-Learn, Tensorflow, Numpy, AWS, SQL Server
- **SF_Automation**
  - Developed an algorithm to calculate attendance from raw time-stamp data acquired from a biometric attendance machine.
  - Created a bot that schedules and announces office hours for TAs and keeps track of progress made by students during their orientation phase at Solarillion Foundation on Slack.
  - Deployed the aforementioned systems in Heroku.
  - Tools used: Pandas, Numpy
- **Bus Stop Gesture Recognition System**
  - Developed a system that identifies bus-stops using images acquired from cameras placed atop a bus using a simple hybrid nearest neighbor algorithm as part of Bachelor's Thesis.
  - Collected data for the same from 8 distinct bus-stops and simulated near real-world scenarios.
  - Tools used: Numpy
- **Speed Control of a DC Motor**
  - Developed an algorithm to stabilize the error between the user given and sensed speed under no load and loaded conditions for a 12 V DC motor using ATmega 328P micro-controller
  - Tools used: Arduino

Achievements

- Secured 95^{th} percentile at Hackerrank in the Algorithms domain.

Technical skills

- **Programming Languages:**
  - *Proficient in*: C, C++, Python, Arduino, Java and LaTeX.
  - *Familiar With*: Javascript, HTML, Lua, CSS, Octave, Fortran, GoLang, Bash, SQL and PHP.
- **Platforms:** Linux, Android Studio, AWS and Heroku.
- **Hardware:** Arduino, Raspberry Pi and BeagleBone.
- **Frameworks:** Scikit-Learn and Tensorflow.