

Vinayaka R Kamath

craterkamath.github.io

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EDUCATION

- **SDM English Medium School** Ujire, Mangalore Area
• *Class 10 : Central Board of Secondary Education; GPA: 10.00* 2004 - 2014
- **SDM Pre University College** Ujire, Mangalore Area
• *II PUC : Karnataka Pre University Board; Agg: 96.67%* 2014 - 2016
- **PES University** Bengaluru
• *B-Tech in Computer Science : PES University; GPA: 9.28* 2016 - Present

EXPERIENCE

- **Microsoft Innovation Lab** PES University, Bengaluru
• *Student Intern* June 2017 - July 2017
 - **Sensor Network and Security:** Worked as a student developer on project WiseNet, a self aware wireless sensor network. Successfully completed the objective of building a ad-hoc sensor network using the arduinos and nrf24L01 radio frequency modules. A second layer of security was also implemented for safe data transfer within the network using AES and RSA encryption algorithm. Depth first search was implemented so that the network could dynamically set itself up.
- **Center for Pattern Recognition and Machine Intelligence** PES University
• *Research Intern* January 2018 - Present
 - **Image Processing:** Worked on generating various pipelines for face recognition and face verification using Locally Adaptive Regression Kernels. One of the pipelines consisted of a system built around lark with svd for preprocessing and distance metrics were used for the classification. Another pipeline designed used HOGSVD as a preprocessing step and several classifiers namely Gaussian Naive Bayes, SGD, LDA and KNN to achieve face recognition.

PUBLICATIONS

- A.Vinay, **Vinayaka R Kamath**, Varun M, K N Balasubramanya Murthy, S Natarajan, "Sparse Locally Adaptive Regression Kernel For Face Verification", International Conference on Computational Intelligence and Data Science, 7-8th April, 2018, Gurugram, India.

PROJECTS

Projects available on github handle: <https://github.com/craterkamath>

- **Upper Case:**
Arcade game built using PyGame a python module. It consists of three mini games namely snake mania, bounce and alien invasion. The game mainly emphasized on using most of the builtin functions of the PyGame module. All the three games are played in single player mode and used inputs from both keyboard as well as mouse. User friendly features like high score and real time score update were also included.

- **Aqua Bot:**
Android based application built to help farmers and fishermen monitor the weather in their locality. The application provides real time temperature, humidity, wind speed and other data using openweather api. The coordinates of the phone was retrieved using Location Manager and Google apis.
- **Home Automation Using Google Assistant:**
A system was built to control and monitor various appliances in and around the house. All the smart appliances could be controlled through google assistant. The devices used MQTT protocol to communicate. The assistant was responsive and would provide aid in monitoring the devices. Raspberry PI was used in the physical layer to accomplish the automation.
- **Score Counter:**
Built using Android Studio SDK score counter is an android application used to keep track of scores of a basket ball match. Using Java for back end and XML for the front end development a single screen application was built for getting a hands on experience of android development.
- **Anduino:**
A semi automated shopping trolley aimed to improve the shopping experience of the customers. Arduino and an android smart phone formed the basic skeleton of the project. The Bluetooth module formed a bridge between the arduino on the trolley and the smart phone in users hand. The barcode scanner on the trolley helped the customers keep track of the things in the trolley
- **WiseNet:**
A self aware wireless sensor network which dynamically sets itself up. The nodes are made up of arduino uno and nrf24L01 single chip transceiver modules. The nodes are capable of identifying its neighbors and spontaneously forming a network. The real time visualization of the network is done using a tool built using Unity–The game engine.

TECHNICAL SKILLS

- **Languages:** C, C++, Python, HTML, CSS, JavaScript, PHP
- **Tools/Frameworks:** Git, MySQL, JQuery, OpenMP, Bootstrap, L^AT_EX, PyGame, ArduinoIDE, Android Studio,scikit-learn, Unity3D.

VOLUNTEER EXPERIENCE

- **Student Executive, IET Student Chapter PESU:**Was part of the Industry Institute Interaction domain of the IET student chapter of PES University. Successfully organized two industrial visits and seminar in the academic year 2016-17.
- **Volunteer, Team Informals, Aatmatrisha 2017:**Was an active member of the team informals, aatmatrisha 2017 and helped in organizing Gully cricket and gaming events.
- **Organiser, #code 2k17:**#code is a 24 hour hackathon conducted by Microsoft Innovation Lab at PES University. Over 150 teams had participated in the hackathon and cash prizes over 1 lakh was awarded to the participants.

MORE

Hobbies: Competitive Programming, Playing Chess, Watching Documentaries.

Linkedin Profile: <https://www.linkedin.com/in/vinayaka-kamath-b36041129/>

Hackerrank Profile :http://hackerrank.com/crater_kamath