**Rajesh** **Maheswaran**

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**Summary**

* Experienced Research Assistant with a demonstrated history of working in the research laboratories
* Skilled in Python, C++, Java, C, and Android Development
* Strong research professional with a Bachelor's degree focused in Computer Science from one of India’s top university

**Technical Skills**

**Languages Known:** Java, C++, C, Arduino, Python, and Javascript

**Database:** MySQL, MongoDB

**Frameworks:** Node JS, Keras, Pytorch, Angular JS

**Tools:** Eclipse, LATEX, Android Studio, Octave, MatLab, NetBeans, Microsoft Visual Studio

**Experience**

**Phoenix Robotics - Technical University Munich** *Munich, Germany*

RESEARCH ASSISTANT *May. 2018 – Aug 2018*

* Worked on improving the computational costs of existing street sign detector system for a self-driven car system
* Implemented an image classifier for digits using the Keras framework on the MNIST dataset with an accuracy of 99%

**Amrita Multi-dimensional Analysis Lab - Amrita University** *Coimbatore, India*

RESEARCH INTERN *Jan. 2016 - Apr. 2018*

* Primary area of research was indoor localization of robots and every day smart phones
* Reduced location estimation time by 20% through implementation of a decentralized indoor cooperative localization scheme
* Location estimates provided by that scheme resulted in an accuracy of 1-2 m in dense environments

**Projects**

**Middleware Framework for Cooperative Localization of Smart phones (Research**

**Paper)**

*Coimbatore, India*

**DOMAIN: ANDROID DEVELOPMENT, INDOOR LOCALIZATION** *Feb. 2018 - PRESENT*

Problem: To develop a common framework for all smart phones to perform cooperative localization

Solution: Devised a localization scheme that utilizes the Bluetooth and IMU sensor technologies in a smart phone; the middleware optimizes the communication overhead and accuracy

**Location Services in Densely Indoor Mobile P2P Networks (Bachelor Thesis)** *Coimbatore, India*

DOMAIN: NETWORKING, INDOOR LOCALIZATION *Dec. 2018 - April. 2018*

Problem: To design a method for efficient communication between nodes in an unstructured P2P network

Solution: Provide location services to the unstructured P2P network and use that information for efficient communication. Location services is not always available with GPS, hence other localization techniques like Multi- Dimensional Scaling and Dead Reckoning are used

**Blood Flow Simulation using Lattice Boltzmann method** *Munich, Germany*

DOMAIN: SCIENTIFIC COMPUTING *June. 2018 - July. 2018*

Problem: To develop an efficient blood flow simulation program; uses input data file

Solution: To increase efficiency, used Lattice Boltzmann method. This method allows parallel run on multiple processors for faster results

**Pacer-Fitness App** *Coimbatore, India*

DOMAIN: ANDROID DEVELOPMENT, MACHINE LEARNING *Jan. 2017 - Mar. 2017*

Problem: To develop an accurate fitness app to monitor steps taken and calories burnt

Solution: The step counter uses the IMU sensors on the phone to calculate the number of steps and velocity of movement. However to calculate step length, a liner regression model was used given the height of the person.

**Squadra-Team Communication App** *Coimbatore, India*

DOMAIN: ANDROID DEVELOPMENT, WEB DEVELOPMENT *Aug. 2016 - Nov. 2016*

Problem: To develop a messaging app to communicate information and conduct polls between team members

Solution: Hosted a server and implemented respective API calls for the Android system to communicate with server

**Co-curricular activities**

**Techfest Munich** *Munich, India*

SIEMENS CHALLENGE *June. 2018*

* Designed an innovative motion tracking system that can be used in devices like smart television
* Used the Teensy USB Development board with inbuilt motion sensors to control actions on the smart television
* Team size 5; my major contribution was interfacing with the android system and transferring information through Bluetooth.

**Smart India Hackathon**  *India*

MINISTRY DIVISION *April 2017*

* Developed an email classifier for Indian Ministry division to better organize and classify the emails. This classifier used logistic regression and classified emails with an accuracy of 95%.
* Team size 3; my major contribution was design of the classifier and design of the android application.

**ICPC contest** *Coimbatore, India*

REGIONAL LEVEL *Mar. 2016*

• Participated in the ICPC regionals held in Coimbatore- India-South Division.

**Education**

**Amrita University** *Coimbatore, India*

B.TECH. IN COMPUTER SCIENCE AND ENGINEERING *July. 2014 - June 2018*

* **GPA:** 9.65/10
* **Course Highlights:** Database Management, Data Structures and Algorithms, Android Development, Natural Language Processing,Web Development, Operating Systems, Compiler Design.
* **Education Abroad:** Foreign exchange program for one semester at the Technical University of Munich (TUM)

**Nationality : U.S. Citizen**