

# Abhianshu Singla

3029 Southern Pine Trail, Orlando, FL 32826, USA

✉ abhianshu@knights.ucf.edu

🌐 www.abhianshu.com

🌐 /in/abhianshusingla

☎ +1-407-853-0534

🌐 /abhianshi

## EDUCATION

### University of Central Florida

Orlando, FL

*M.Sc. in Computer Science (GPA: 4.0)*

*Aug. 2017 - Dec. 2018*

### PEC Univeristy of Technology

Chandigarh, India

*B.Eng. in Computer Science (GPA: 4.0)*

*Aug. 2010 - May 2014*

## WORK EXPERIENCE

### University of Central Florida

Orlando, USA

*Graduate Teaching Assistant*

*Jan. 2017 - Present*

- Responsible for assisting students and grading Java-based programming assignments for Enterprise Computing course taught by Dr. Mark Llewellyn

### Samsung Research Institute India

Noida, India

*Software Engineer*

*Jun. 2014 - Jul. 2017*

- **Enterprise Billing Framework** – Handled framework of Enterprise Billing module to separate bill generation for personal and enterprise data usage
- **Mobile Device Management** – Facilitated support for various VPN vendors in Samsung Android devices under MDM/VPN team
- **Knox Framework** – Developed and commercialized Knox, a mobile enterprise security solution by Samsung
- **Mobile Enrollment** – Built Mobile Enrollment module to support normal enrollment of devices to the enterprise, bulk enrollment and enrollment through NFC

### Playbuff Inc.

Chandigarh, India

*App Developer Intern*

*Mar. 2013 - Jun. 2013*

- **Multiplayer iOS game** – Developed an Online Multiplayer iOS game developed using C and Unity Game Engine
- **Medical Android Application** – Programmed an Android Application to transmit medical records by NFC developed using Java and libNFC

### µTrade Solutions

Chandigarh, India

*Software Developer*

*Jan. 2013 - Feb. 2013*

- Built a Database Automation Tool developed using C++ and PostgreSQL

## TECHNICAL SKILLS

**Languages:** Python, Java, C, C++, SQL, Matlab, L<sup>A</sup>T<sub>E</sub>X

**Libraries:** TensorFlow, Keras, Scikit-learn, SciPy, OpenCV, nltk

**Frameworks and Tools:** ROS, Perforce, Quick Build, Eclipse, Android Studio, Android Networking API, Unity

## PROJECTS

### Driver's Behavior Cloning

*July 2018*

- Designed a Deep Neural Network based on NVIDIA model to predict the steering angles of the vehicle
- Data Augmentation for handling sharp left and right turns, road surroundings and weather changes
- Autonomous Behavior tested on Udacity's Self-Driving Simulator developed in Unity

### Q-Learning in a grid world

*Feb. 2018 Mar. 2018*

- Designed a Reinforcement learning engine with deterministic and stochastic behavior in an interactive grid world GUI using python's tkinter library

### Dynamic Path Planning

*Feb. 2018 Apr. 2018*

- Developed and Validated A\* Variant Algorithms - Forward A\*, Lifelong Planning A\*, Real-time Adaptive A\*, Learning Real-time A\* and D\* Lite

- Implemented A-star path planning algorithm with different heuristic methods and costs
- Integrated Dynamic Path Planners with ROS

### **Multi-Sentiment Analysis**

*Feb. 2018 - Mar. 2018*

- Classified the emotions using Naïve Bayes, Maximum Entropy and SV Classifiers on ISEAR and IMDB movie dataset

### **Object Classification**

*Sept. 2017 - Dec. 2017*

- Built a Food Classification of Food-101 data using k-means cluster, SVM and Random Forest classification methods and developed using sklearn libraries
- Classification of UCF Sports Action with Local features (HoG, Image Histogram), and Global features (Shape Model) as well as Deep Neural Net using Keras
- Digit recognition of MNIST dataset using Tensor Flow

### **Feature Extraction Techniques**

*Sept. 2017 - Dec. 2017*

- Implemented SIFT (Scale Invariant Feature Transform) feature extraction technique
- Accurately modeled Lucas Kanade Optical Flow, Canny Edge Detection, Harris and Susan Corner Detection Algorithms

### **Internet of Things Application**

*Sept. 2017 - Dec. 2017*

- Built a Remote Video Surveillance based on Raspberry-Pi using Amazon Web Services and a remote Host

### **Real-Time Traffic Mapping**

*Aug. 2013 - Apr. 2014*

- Designed an Android application for real-time traffic mapping through crowd-sourcing in collaboration with IIT Bombay
- Developed an algorithm to predict the arrival time of local buses based on congestion, stops and speeds
- Analyzed the sensitivity levels of sensors like accelerometer, gyroscope for various Android devices

### **Cryptography - Security Analysis**

*Jan. 2014 - Apr. 2014*

- Responsible for Privacy and Security Analysis of Android Applications and detection of duplicate applications