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Akhilesh Kumar

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Academics

2016-2020 (Expected)	B.Tech in **Electronics and Communication Engineering** **Jaypee University of Information Technology**, Waknaghat	**GPA**: 6.7/10.0

Technical Skills

Programming	*Proficient:* C++, Python, Java *Familiar:* JavaScript, Go
Libraries / Frameworks	Flask, Node.js, ReactJS, Tensorflow, Keras, OpenCV, ROS
Databases	MySQL, MongoDB
Systems / DevOps	Git, AWS (Lambda, EC2, S3), Docker, Jenkins, Kubernetes, ElasticSearch

Experience

Jan 20 Present — **Intern** — **Ericsson, Noida**
- Intern under the "Talent Development Program by Ericsson" on Telecommunication technologies. Part of BO RAN Domain in 2nd LA RAN Tx Team.
- Built a Rest API using Java, Python, Bash, Spring Boot and Swagger to automate alarm failure analysis.

July 19 Dec 19 — **Teaching Assistant** — **JUIT, Waknaghat**
- Teaching Assistant for Artificial Intelligence Techniques Course (18B1WEC838) offered by ECE Department.
- Responsible for evaluation of labs for Junior year Undergraduate students, Setting up Programming Assignments and evaluation and conducting Hands-on Programming tutorials for Various ML/DL algorithms in Python.

May 19 July 19 — **Automation Intern** — **AKVO, Kolkata**
- Designed System Specification and Implemented automated controls using microcontroller and took data on Thingspeak for .
- Increased efficiency in water generation overall and reduced failure rate to a significant 4% using sensors. Programmed multiple machine types with controlling microcontrollers interfaced with various sensors. Used Thingspeak for collecting data in real time.

May 18 July 18 — **Machine Learning Intern** — **Pucho, Gurgaon**
- Interpret data on price, yield, stability, future investment-risk trends, economic influences, and other factors affecting investment programs using Data Analytics.
- Worked on Data Scrapping, Fuzzing, Preprocessing on Documents and Setting up a multi-label Classifier.

Projects

July 19 — **Standalone Driving Assistance Unit for SDC** — **Final Year Project**
- Developed a dash camera based standalone pipeline with functionalities of Lane Departure Warning, Forward Collision Warning and Tailgate warning
- Implemented a multi class traffic sign classifier and vehicle detection pipeline and a Robust Curved lane detection pipeline built on top of Python based on HSV filtering and Sliding window search algorithm with an overlay of detected road.

Dec 18 — **MetaQP | Fuzzy Question Paper Searching**
- Led a team of 5+ developers in developing an integrated platform for archive bibliographic search and management portal in JUIT Waknaghat.
- Currently has 1000+ users, 100% API test coverage, 5000+ search queries, and has served 600+ downloads.
- Implemented a Machine Learning model to map string scoring for query result serving.
- Went through complete software development and production cycle; explored Git, Jenkins, Ansible, Docker, AWS, and DigitalOcean. Currently deployed on AWS.

Feb 17 — **Curved lane lines detection using HSV filtering and sliding window search method** — **Murious 2017**
- Built a Fully Convolutional Network (FCN) that could label the individual pixels of an image as road or not road. Used FCN-8 architecture and built using the VGG network and trained on the KITTI Dataset.
- Skills involved: Computer Vision, C++, Python, Neural Networks.

Hackathons & Competitions

Current | **Pedestrian Safety Device** — **Smart India Hackathon '19**
- Built a Pedestrian Detection Pipeline using INRIA dataset and YOLO model with Darknet framework. Comparatively analyzed the efficiency of alert trigger with INRIA and DALIMAR datasets.

Nov 17 | **IoT based Pollution Monitoring and Waste Management for smart cities** — **Smart Cities Hackathon-'18**
- Won 2nd Prize for building a Smart City smart waste management dashboard with various utilities created for municipalities. The dashboard was built with a NodeJS backend and had several utilities including plots, optimal routes, grievance portal and municipal vehicle finder to name a few.

Feb 17 | **Underwater Glider for Real Time Mapping with SensorTag IoT System** — **Murious 2017**
- Accomplished automated glider controlled movement with a ballast system. Developed obstacle-avoiding feature and Interfaced TI CC2650STK SensorTag with Raspberry Pi to retrieve data in real time.

Certification

Current | **Self Driving Car Engineer Nanodegree** — **Udacity**
Learned Computer Vision, Deep Learning, and Sensor Fusion, Localization, Path Planning, Control, and System Integration with 11 projects in the Nanpdegree course.

June 19 | **Deep Learning Specialization** — **Coursera**
Learned basics of Deep Learning, Hyperparameter tuning, Regularization, Optimization, Convolutional Neural Networks, Building RNNs & it's variants such as GRUs and LSTMs. Built projects on image and video recognition, classification and annotation. Various object detection techniques, motion estimation & object tracking, human action recognition, and image stylization, editing and generation

Mar 18 | **Robotics Specialization** — **Coursera**
Completed courses on Aerial Robotics, Computational Motion Planning, Mobility, Perception and Estimation and Learning Learned simulation, Path Planning, Sensor calibration, Designing of control algorithms and Extended Kalman filters to navigate autonomously through designed environment

Sept 17 | **Machine Learning** — **Coursera**
Learned various algorithms for the foundation of Machine Learning and implemented on octave. Completed Spam Classifier and Hand written digit recogniser Project in this Course.

Extracurricular & Leadership

Current | **Organizer**, E'Summit-JUIT
Part of the organizing committee of the first ever Entrepreneurship Summit of Himachal Pradesh. Core strategist for all the events, sponsorship and participation for the event.

Current | **Founder & Maintainer**, MetaJUIT Wiki
Responsible for fostering participation, promoting the growth of the group and maintaining the following open-source projects: metaqp, metaYP and metaImplode

2018-19 | **Vice Chairperson**, ACM Student Chapter JUIT
Responsible for forming event policies, Administration and management of ACM Student Chapter of JUIT.

2018-19 | **Coordinator**, JYC Media & Publicity Committee
Leading a group of 45 students in areas of Digital Marketing (SMM, Email-Campaign), Graphic Designing/Video Editing. Procured and managed fund of 3 Million INR for college fests.

2018-19 | **Overall Coordinator**, TIEDC | E-Cell of JUIT
Actively building a vibrant startup ecosystems in Himachal Pradesh. I managed and coordinated with a team of 40 volunteers to organize Techstars Startupweekend Solan.

Sept 18 | **Organizer**, Techstars Startupweekend
Organized Techstars Startupweekend powered by Google for Entreprenuership

Mar 18 | **Best Performer**, Manthan 2018
Best performer of the National level dramatics competetion

Honours & Awards

- World Rank 37, BrainWaves 2017-18, (ML Contest)
- Best Performer, TIEDC Business Modelling Competition
- Finalist,Hackathon at UIET, Punjab University (3/55 Teams)
- Finalist, National Entrepreneurship Challenge, IIT-B. Top 1%