# Abhinuv Nitin Pitale

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**Objective**: To obtain a Co-Op/Internship for Summer/Fall 2018

## Education

**Masters** in **Computer Engineering** at **Virginia Tech** **May'19** *(Expected)*
***GPA: 3.76***

**B. Engineering** in **Electronics & Telecommunications** at **University of Pune** **May'16**
***GPA: 70.16%,*** *Awarded* ***Consistently High Academic Performance (C.H.A.P) Award***

## Work Experience

**Neural Dynamics Lab, Virginia Tech,** *Graduate Student Researcher* **Nov'17 - Present**
- Design and study of deep neural networks (Capsule Nets, RNN+LSTM) to study Brain Activity for BMI tasks

**Mercedes Benz Research & Development India***, Graduate Engineering Trainee* **Aug'16 – Jul'17**
- Design, simulation and prototyping of a navigation system for autonomous lane shift
- Tool automation for calibration of Emission data using the Powertrain CAN to reduce job time on a HiL by 90%

**Defense Research & Development Organisation,** *Embedded Systems Intern* **Jun'15 – May'16**
- Modeling for Simultaneous Localization and Mapping (SLAM) for an inertial navigation system
- Built firmware on LPC1769 for signal processing and conditioning of IMU sensor data for navigation

**San Telequip Pvt. Ltd,** *Embedded System Intern (wireless doorbell camera)* **Jun'14 – Nov'14**
- Prototyped a wireless doorbell and setup up an Apache server for querying and processing client queries.
- Developed a JavaScript based app and an Android app to view the video stream remotely

## Projects

Pong using Brain Machine Interface **Dec'17 – Present**
- Developed two player pong game to be played using beta activity from the brain using various BMI headsets

ASL Finger Spelling Gesture Recognition **Oct'17 – Dec'17**
- Trained a SVM classifier with 67% accuracy for Live Web-cam feed using gestures extracted from HoG, SURF
- Trained a CNN with an augmented Treisch Dataset to improve the accuracy to 81% for static images

Cyber Security Data Analytics **Oct'17 – Dec'17**
- Examined log files and system admin data(~20GB) to find evidence of malware and keylogging
- Generated Analytical models for their employees to predict resignations and model suspicious behavior

Data Driven Astronomy **Mar'17 – Jun'17**
- Trained a k-d tree classifier to cross-match galaxies in the SuperCOSMOS dataset to the ATG20 BSS catalog
- Built classifier trees from the SDSS dataset to use ensemble learning to classify galaxies

Web Crawling **Feb'17 – Jun'17**
- Web scraping using text, XML and HTML parsing on various news-feeds and websites

## Publications

- First Author and Presented **'Signal Conditioning algorithms on accelerometers in an Inertial Navigation System'** at IConSIP-2016 ISBN 978-1-5090-1522-1
- Developed and Published **'DFT Tool'** on the Google Play Store

## Courses

**Spring 2018** : Virtual Environments, Parallel Computing, Wearables, Electronic Design Automation
**Fall 2017** : Computer Vision, Data Analytics, Networks

## Technical Skills

**Languages** : Python, C, C++, Java, SQL, JavaScript
**Tools** : MATLAB, Simulink, Android, Pytorch, Tensorflow, OpenBCI , Unity, Git

## Awards/Achievements

- Secured **3rd place** at the IEEE project competition organised by the IEEE MIT Pune Student Chapter
- Founded the '**MIT Labs**' for promoting the use of **embedded platform** for development among my peers
- Guinness World Record, Limca and India Book of Record for 'Most People Solving Rubik's Cube'