AJITH KUMAR NATARAJAN

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PERSONAL DETAILS

Date of birth: 23-Jan-1997
Languages known: English[P], Tamil[P], Telugu[M], Hindi[M], Sanskrit[B] ([P] - Proficient, [M] - Moderate, [B] - Basic)

EDUCATION

Master of Science (Computer Science)
State University of New York - College at Buffalo   📅 2019 – 2021 (expected)

Bachelor of Engineering (Electronics Engineering) (First-class)
Madras Institute of Technology campus, Anna University   📅 2014 – 2018

Higher secondary schooling (School topper)
Chinmaya Vidyalaya   📅 2012 – 2014

Secondary schooling (School topper)
Chinmaya Vidyalaya   📅 2010 – 2012

RESEARCH EXPERIENCE

Bharati script
Indian Institute of Technology (IIT), Madras   📅 Aug 2018 - July 2019

POSITION: Research associate   **SUPERVISOR:** Prof. Srinivasa Chakravarthy. V

- Built a CNN model to recognize a novel finger-spelling system based on Bharati
- Worked on developing common OCR engine for Indic scripts
- Built a Bharati based virtual keyboard which can convert handwritten input to corresponding text in the desired major script

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Identification via Sparse Representation : Robust System for Face Recognition from Down-sampled Images (Undergrad thesis) (**Most creative undergrad thesis award**)
Indian Institute of Technology (IIT), Madras   📅 Dec 2017 - Mar 2018

POSITION: Research intern   **ADVISOR:** Prof. Arun K. Tangirala & Prof. Prakash Jagadeesan

- Used sparse optimization framework based compressive sensing together with haar-like classifier to build a centralized face recognition system

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Sparse Optimization based Signal Recovery
Indian Institute of Technology (IIT), Madras   📅 May 2017 - Jun 2017

POSITION: Research intern   **SUPERVISOR:** Prof. Dr. Arun K. Tangirala

- Worked on image reconstruction with adaptive dictionary learning to integrate the technique into web browsers through an extension

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Developing super-luminescent diode based multi-gas sensing technique in 1.5 μm wavelength region
Indian Institute of Technology (IIT), Madras   📅 May 2016 - Jun 2016

POSITION: Research intern   **SUPERVISOR:** Prof. Dr. Nilesh J. Vasa

- Worked on identifying the unknown constituents in a mixture of gas by passing through laser and classifying the gases present based on the frequency of laser absorbed

RELEVANT INDUSTRIAL EXPERIENCE

Back-end Systems Integration - Conversion of various file formats to Java objects

Zoho Corporation Pvt Ltd

📅 Apr 2018 - Jul 2018   **POSITION:** Full-time software engineer
📅 Dec 2017 - Mar 2018   **POSITION:** Part-time software engineer

- Devised the back-end technique to import files of different types (CSV, TSV, XLS, etc..) and integrate into the current Zoho Tables (product yet-to-be-launched) project using JSON with Java

TECHNICAL PROFICIENCY

- **Programming Languages:** Java[P], Python[M], C++[M], C[M], MATLAB[M], HTML[M], Embedded C[M], R[B], CSS[B], JavaScript[B] ([P] - Proficient, [M] - Moderate, [B] - Basic)
- **Tools:** TensorFlow, Weka, OpenCV, RStudio, Octave, MATLAB, Eclipse, Android Studio, Simulink, NI LabVIEW, Proteus, LaTeX, Keil, iThink, MS Office tools
- **Operating Systems:** Linux, Microsoft Windows, macOS
- **Microcontrollers:** Raspberry Pi, ATMega328P, ATMega2560

PROJECTS

- **Road safety enhancement system for automobiles by studying EEG waves** (*Funded by Centre For Technology Development and Transfer, Anna University*) (Using Raspberry Pi and OpenCV)
- **Prognosis of Breast Cancer and Diagnosis of Tumor Malignancy through Multiple Machine Learning Data Mining (MLDM) Techniques** (Using Weka and MATLAB)
- **Design and development of hardware and software (PC and Android application) of a modern smart vehicle (Human-Machine interface)** (Using LabVIEW, Python IDLE and Android Studio)
- **Mini-projects like pre-skid alerter** (Using 3-axis accelerometer & ATmega2560); **Heart rate computation from ECG signal analysis** (Using MATLAB); **Autonomous trolley billing system** (Using ATmega328P)

CERTIFICATIONS AND TRAINING

- Analysis and Interpretation of Biological Data (**Indian Institute of Technology, Madras**) (Jan 2019-May 2019)
- Winter course on Machine Intelligence and Brain Research (**Indian Institute of Technology, Madras**) (Jan 2019)
- Machine Learning (**Stanford University**) (Dec 2018-May 2019)
- Linear Algebra - Foundations to Frontiers (**University of Texas at Austin**) (Aug 2018-Dec 2018)
- Introduction to Statistical Hypothesis Testing (**Indian Institute of Technology, Madras**) (Jun 2017-Jul 2017)
- Introduction to Algorithms & Data Structures (**Massachusetts Institute of Technology**) (Jan 2017-May 2017)
- Scilab for Engineers (**Indian Institute of Technology, Bombay**) (Dec 2015-Jan 2016) (**Certified**)

CO-CURRICULAR ACTIVITIES

- Scored **90%** in *NPAT* – A national level programming contest conducted by **NPTEL** in collaboration with **ACM** and **Google**
- Sponsored **IEEE student member** in college
- **Pre-finalist**, *e-Yantra Robotic Competition* – A National level competition organised by **IIT Bombay** and **Ministry of Human Resource Development, India**
- **Pre-finalist**, *NIYANTRA* – A National level design and development competition organised by **National Instruments**
- Secured **second place** in *C-Debugging* and *Idea presentation*, held in Livebeat – An intra-college technical symposium in **MIT, Chennai**

EXTRA-CURRICULAR ACTIVITIES

- **Head**, CSMIT 2018 Tech team, MIT Campus, Anna university, India
- **Secretary**, Robotics club (2017) of MIT Campus, Anna university, India
- Certified as **A graded individual** in National Cadet Corps (NCC)
- **President** of workshop team Intecho 2018, MIT Campus, Anna university, India
- Class **Committee Member** during the course of college
- Regular blood donor
- **Student member** of Nethrodaya, club to help visually challenged