

AJITH KUMAR NATARAJAN



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PERSONAL DETAILS

Date of birth: January 23, 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

August 2019 – December 2020 (expected)

Bachelor of Engineering (Electronics Engineering) (First-class)

Madras Institute of Technology campus, Anna University

August 2014 – April 2018

Higher secondary schooling (School topper)

Chinmaya Vidyalaya

July 2012 – March 2014

RELEVANT COURSEWORK

Graduate:

- Computer Vision and Image Processing
- Introduction to Machine Learning
- Information Retrieval

Undergraduate:

- Fundamentals of Data Structures and Algorithms
- Object Oriented Programming Computing Techniques
- Introduction to Statistical Hypothesis Testing
- Digital Image Processing
- Linear Algebra - Foundations to Frontiers
- Analysis and Interpretation of Biological Data

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

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

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

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 (**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

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