Aditya Natarajan

http://adinat.github.io
adinat96@gmail.com | +91 9481810025

EDUCATION

COLLEGE OF ENGINEERING, GUINDY | B.E, Computer Science and Engineering
2018 (expected) | Chennai, TN
8.84/10

NATIONAL PUBLIC SCHOOL, RAJAJINAGAR | Higher Secondary, CBSE
2014 | Bangalore, KA
95.6 %

NATIONAL PUBLIC SCHOOL, RAJAJINAGAR | Senior Secondary, CBSE
2012 | Bangalore, KA
10/10

EXPERIENCE

COLLEGE OF ENGINEERING, GUINDY | Undergraduate Researcher
Apr 2017 – Present | Chennai, TN

- Worked on sequence learning for High Performance Computing
- Developed a predictive model for Lattice - Boltzmann computations using deep neural networks

INDIAN INSTITUTE OF SCIENCE | Summer research intern
May 2016 – June 2016 | Bangalore, KA

- Worked on single-image depth map predictions using deep networks
- Applied Machine Learning and Deep Learning concepts to implement solutions for Computer Vision problems
- Performed literature study on Neural Turing Machines and Machine Learning concepts

ECO WATCH INDIA | Volunteer
May 2016 – June 2016 | Bangalore, KA

- Designed and implemented educational aids on environmental conservation
- Participated in an on-site soil conservation project
- Hosted multiple events as part of an outreach program for underprivileged school children

SELECTED PROJECTS

BLIND GUIDANCE AND ROAD ASSISTANCE SYSTEM
Skills : Javascript, Raspberry Pi

- Designed a Smart Cap wearable to provide visual assistance
- Used clmtrackr for fitting facial muscles for emotion detection
- Also designed image processing and text-to-speech modules for road sign identification

GESTURE CONTROLLED RC BOT
Skills : OpenCV, Microsoft Azure, Raspberry Pi

- Designed a fully functional gesture controlled RC bot on Raspberry Pi
- Wrote OpenCV modules to help identify and control the bot using a variety of hand gestures
- Also utilized Microsoft Cognitive services Computer Vision API for OCR processing
- This project won 2nd place in Microsoft's Code.Fun.Do Hackathon and was chosen for the national finals to be held at Microsoft IDC, Hyderabad

SEMANTIC SIMILARITY APPROACH TO SPAM FILTERING

Skills : Neural Networks, Support Vector Machines, Python

- Designed and implemented a "Corpus-Based Thesaurus" using vector similarity and PCA techniques to classify email as spam using neural networks and Support Vector Machines
- Also experimented with and implemented other approaches including Adaptive Backpropagation Neural Networks (ABPNN)
- Achieved an accuracy of 84%

STOCK MARKET PREDICTION USING MACHINE LEARNING

Skills : Neural networks, Random Forests, Python

- Implemented a variety of Regression techniques (Random Forest, Bagging, Gradient Boosting, AdaBoost) to predict and plot the stock price of 5 BSE\NYSE listed companies
- Also employed linear classification techniques to predict stock price direction
- Twitter sentiment analysis was also performed to verify the results and propose improvements

SKILLS

Languages:
C • C++ • Python • Java • HTML/CSS • PHP
Tools:
LaTeX • MATLAB/Octave • Git
Databases:
MySQL • Oracle
Operating Systems:
Linux • Windows

COURSEWORK

Computer Architecture
Data Structures
Database Management Systems
Design and Analysis of Algorithms
Operating Systems

Software Engineering
Java and Internet Programming
Computer Networks
Compiler Design
Artificial Intelligence

HONORS

2ND PLACE, MICROSOFT CODE.FUN.DO HACKATHON | Selected for national finals
CBSE INSPIRE SCHOLARSHIP | For finishing in the top 1 % in class 12
CERTIFICATE OF MERIT, CBSE | For finishing in the top 0.1 % in class 10
MULTIPLE QUIZ PRIZES | School and college level

EXTRA CURRICULARS

ASSOCIATION FOR COMPUTING MACHINERY (ACM - CEG) | Membership Chair
THE GUINDY TIMES (CAMPUS MAGAZINE) | Executive Editor
QUIZZERS ANONYMOUS (QUIZ CLUB) | Director (2016)
K! (ANNUAL TECHNOMANAGEMENT FEST) | Organizer (2017), Coordinator (2016)
NATIONAL SPORTS ORGANIZATION | Active member (2015)