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jnaayush

# AAYUSH JAIN

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Available: January - August 2019

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## EDUCATION

NORTHEASTERN UNIVERSITY, BOSTON, MA Expected Dec 2019

College of Computer and Information Science

Candidate for Master of Science in Computer Science

GPA 3.89

- Course Work: Computer Systems, Algorithms, Object Oriented Design, Discrete and Data Structure
- Machine Learning (Ongoing), Information Retrieval (Ongoing)

INDIAN INSTITUTE OF TECHNOLOGY (IIT), KHARAGPUR, INDIA

Jul 2009 - Jun 2014

Bachelors (Honors) & Masters (Honors) of Science in Geophysics

- Relevant Courses: Programming and Data Structure, Partial Differential Eqn, Signal Processing
- Recipient of I.N.S.P.I.R.E. scholarship from Department of Science & Technology, Government of India

## ACADEMIC PROJECTS

Web Crawler (*Python, BeautifulSoup, Algorithms*)

Sep 2018 - Ongoing

- Created **Breadth First Search** web crawler to scrape 1000 wikipedia articles on MacintoshOS
- Parsed HTML pages; constructed **directed web graph** & implemented **page rank algorithm** to assign page ranks

Performance Analysis of Sorting Algorithms (*C, Python, libperf, matplotlib, numpy*)

Jul 2018 - Aug 2018

- Developed a **tool** to **study sorting** algorithms on metrics such as cache misses, page faults in Linux environment
- **Automated** selection of sorts, generation of data and plotting results on graph to **cut down study time** by 80%
- **Presented report** to instructor explaining results and inferring differential behavior of sorts

Animation generator based on MVC design pattern (*Java, Swing, Awt, Xml*)

Mar 2018 - Apr 2018

- Pair-programmed to generate **GUI** based SVG animation viewer and its text transcript by processing input file
- Followed **factory design** pattern to generate views based on user input and allow addition of new views types

Explode : Robotics Competition, Kshitij 2010 (*C, GDB, Graph algorithms*)

Dec 2009 - Jan 2010

- Built **two autonomous robots** to navigate a grid to detect land mines & traverse grid again avoiding land mines
- Implemented **shortest path algorithm** to traverse grid in shortest time & **debugged** 1500+ lines of code in GDB
- **Finished 2<sup>nd</sup>** in largest robotics competition in eastern India along with 3 team members

## TECHNICAL KNOWLEDGE

Languages: C, Java, Python, C++, HTML, CSS

Tools: IntelliJ Idea, Xcode, Pycharm, VIM, Git, Android Studio

## WORK EXPERIENCE

Teaching Assistant

Northeastern University, Boston, MA

Jan 2018 - Present

- Courses: Discrete & Data Structure | Algorithms | Computer Systems | Object Oriented Design | Foundations of CS
- **Guiding** 100+ students to help reinforce concepts, complete assignments and improve academic performance
- **Monitoring** students' **progress** and assisting professor in **grading** weekly assignments, conducting labs & quizzes

Product Developer

SensoVision Systems, Bangalore, India

Aug 2016 - Aug 2017

- **Envisioned** & developed an **optical sorting** machine using **OpenCV** to eliminate manual quality check by 100%
- **Customized** 2 open source **softwares** by adding new features to fast track prototype development
- Re-designed and created company website resulting in an increase in hit rate by 2x

Teaching Associate

R.A.C.E., Bhopal, India

May 2015 - Jul 2016

- **Taught Mathematics** & prepared practice material; received high remarks for creativity of classroom lessons

Geophysicist

Central Mine Planning and Design Institute, Nagpur, India

Aug 2014 - May 2015

- Discovered coal deposits through analysis, classification & interpretation of well-logging and electrical profiling data
- **Reduced expenses** by 20% in combined drill bit cost & man hours by locating & avoiding subsurface volcanic rocks

## EXTRACURRICULAR

- Awarded Best Outgoing Sportsman, Patel Hall for medals and contributions in athletics, basketball & waterpolo
- Led a team of 7 for organizing and executing basketball competition in annual sports fest of IIT Kharagpur
- Interests : Tech-DIY ★ Basketball ★ Card games ★ Guitar ★ Traveling