Rishub Jain

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EDUCATION

CARNEGIE MELLON UNIVERSITY
BS in Computer Science
Expected May 2019 | GPA: 4.0/4.0

THOMAS JEFFERSON HIGH SCHOOL FOR SCIENCE AND TECHNOLOGY
Grad. June 2015 | GPA: 4.4/4.0

COURSEWORK

UNDERGRADUATE

- Concepts of Mathematics
- Principles of Imperative Computation
- Matrix Algebra
- Competition Programming and Problem Solving

In progress:

- Great Theoretical Ideas in Computer Science
- Principles of Functional Programming
- Prob Theory and Random Processes

HIGH SCHOOL

- Artificial Intelligence
- Parallel Computing
- Computational Physics
- Multivariable Calculus
- Complex Analysis
- Differential Equations
- Advanced Mathematics Techniques
- Probability Theory
- Digital Electronics
- Robotics
- Microprocessor Systems

SKILLS

Languages:
Java • Python • C/C++ • bash

- Proficient with Linux, Windows, and Mac environments
- Proficient with Git and SVN
- Extensive image processing background
- Web App Development (APIs, etc.)

EXPERIENCE

NATIONAL INSTITUTES OF HEALTH | Computational Biology Intern
Summer 2015 | Bethesda, MD

- Established a basis for consistently and quickly generating near atomic resolution reconstructions of proteins using cryo-EM
- Worked on image processing algorithms for detecting aggregate particles, using Python and C
- Optimized performance by a factor of 4, using C and bash

U.S. ARMY RESEARCH LABORATORY | Software Engineering Intern
Summer 2014 | Aberdeen Proving Ground, MD

- Worked on the Army's primary CAD software, BRL-CAD, an open source, constructive solid geometry modeling system
- Developed a two-way converter between the Stanford PLY and BRL-CAD's file formats that supported both binary and text versions, using C
- Research report was published in the DTIC

NASA | Software Engineering Intern
Summer 2013 | Goddard Space Flight Center, MD

- Worked on the NASA IMAGESEER website processing satellite images by writing Python and batch scripts that transformed the raw image data files into usable and geographically accurate images in many different formats
- Wrote a research paper on Super Resolution, published on the website
- Received first place at the Interns Poster Contest

PROJECTS

2016	PoolMaster (Real time pool game helper)	Build18
2015	MapIO (Group Meeting Website)	HackCMU
2014-15	Luggage Recognition using Image Processing	Senior Research Project
2013	Platform Game	HackTJ

AWARDS

2014	Eagle Scout Award
2013	1st Place in Poster Presentation at NASA Goddard
2012	1st Place at the American Computer Science League (ACSL) Competition in the Team and Individual rounds. Received a perfect score on all contests.
2012	1st place in the Design category of the Freshman Robotics Competition

ACTIVITIES/LEADERSHIP

2003-15	Leadership Positions, Eagle Scout	Boy Scouts
2011-15	Captain (2013-14)	Computer Team
2012-15	ARML Highest Team Scorer (2014)	Varsity Math Team
2011-15	USACO Silver	Competitive Programming
2013-15	Tech. Chair and Webmaster	National Honor Society

COMMUNITY SERVICE

2003-15	Various Volunteering, Eagle Scout Project	Boy Scouts
2013-15	Tutor, Center Manager	GIVE Tutoring organization
2012-15	Volunteer (TJIMO, Mathcounts)	Math Competition Organizer