Nalini Singh

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Education

Massachusetts Institute of Technology, Electrical Engineering & Computer Science (GPA: 5.0/5.0) **Jun 2017**

Relevant coursework:

- *EE:* Communications, Control & Signals, Signals & Systems, Circuits & Electronics, Digital Systems Lab
- *CS:* Machine Learning, Computer Vision, Algorithms, Computer Systems, Computer Architecture
- *BioEECS:* Biomedical Signal and Image Processing, Secondary Analysis of Electronic Health Records

Thomas Jefferson High School for Science and Technology (GPA: 4.5/4.0**)** **Jun 2013**

Relevant coursework: Multivariable Calculus, Linear Algebra, Numerical Analysis, Advanced Math Techniques

Experience

IBM Research – Healthcare Analytics Group, Cambridge, MA **Jan 2017**

- Designed and conducted feature analyses to determine proteins involved in adverse drug reactions

Nihon Kohden Innovation Center, Cambridge, MA **Jun 2016 - Present**

- Developed quadratic discriminant analysis classifiers for evaluating relevance of bedside alarms in neonatal intensive care units; ultimately will be used for reduction of false alarms to improve patient care
- Currently authoring journal paper for publication

MIT Media Lab – Biomechatronics Group, Cambridge, MA **Jan 2014 - Present**

- Leading research project to develop biomimetic prosthesis control systems for walking across varied terrains
- Awarded 2nd place oral presentation at EECSCon, MIT's premier undergraduate EECS research conference

Vecna Technologies, Cambridge, MA **Jan 2016**

- Researched, selected, and tested localization/mapping (SLAM) strategies for hospital delivery robot

Charles Stark Draper Laboratory, Cambridge, MA **Jun 2015 – Aug 2015**

- Developed and implemented computer vision methods for "lost robot" parafoil localization without GPS; algorithm currently being used in test parafoil flights

The MITRE Corporation – Nanosystems Group, McLean, VA **Jun 2011 - Aug 2013**

- Derived molecular-scale atomic circuit models; was selected as Intel Science Talent Search semifinalist

Selected Projects

Heartaware **Sep 2015 – Dec 2015**

- Developed FPGA system to detect peaks and calculate patient heart rate from pulse oximeter input waveform

Predicting Acute Kidney Injury with Mean Arterial Pressure in Septic ICU Patients **Sep 2016 – Dec 2016**

- Conducted observational study using MIMIC III database; currently authoring journal paper for publication

Leadership and Activities

MIT Eta Kappa Nu, President **May 2016 - Present**

- Lead 15-person officer team and 70-member organization that supports 800+ MIT EECS undergraduates by running department-wide tutoring programs, educational workshops, course evaluations, etc.

MIT TechX – HackMIT Committee, Blueprint Director **Sep 2013 – Oct 2014**

- Founded and led organization of Blueprint, Boston's first high school hackathon (300+ attendees)
- Directed outreach efforts for HackMIT, one of the largest college hackathons worldwide (1000+ attendees)

Honors and Awards

Intel Science Talent Search Semifinalist, Eta Kappa Nu, Tau Beta Pi

Skills

Software: Python, C++, Java, HTML/CSS, Javascript, MATLAB, Mathematica, LaTeX
Hardware/CAD: Verilog, FPGA Design, Lab Equipment (Oscilloscope, Logic Analyzer), Solidworks