

# ISHAN MITRA

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## Skills

### PROGRAMMING LANGUAGES

C++  
Java  
Python  
Javascript  
Node.js  
Android  
HTML/CSS  
R

### TOOLS

Git  
Matlab  
VIM

### OPERATING SYSTEMS

Linux  
Windows

### INTEREST

Podcasts  
Drone-Flying  
Hip-hop music  
Robotics  
Hackathon  
Basketball

## Education

University of Washington, Seattle Aug. 2018 to Current  
Bachelor's Degree Computer Engineering  
Current Courses: MATH 126: Calculus Analytic Geometry III (Multivariable Calculus), INFO 201: Technical Foundations (R Programming and Git)  
Planned Courses: CSE 143: Algorithms and Data Structures, PHYS 121: Mechanics

Monta Vista High School Aug. 2014 to June 2018  
GPA: 3.806

## Experience

NVIDIA Santa Clara, CA  
June 2017 to Aug. 2017  
Embedded Systems Intern

- Worked in a small exploration project group to develop a humanoid robot capable of identifying trash around the office workspace and pick it up using machine learning and artificial intelligence.
- Utilized C++ and NVIDIA Digits software to train the ML model and control the movement of the humanoid.
- Presented to the CEO of the company and experts in the field of AI.
- Open sourced the project to lay foundations for future humanoid robotics work at NVIDIA (<https://news.developer.nvidia.com/intelligent-trash-pick-up-robots-coming-to-an-office-near-you/>).

ScoreData Palo Alto, CA  
June 2016 to Aug. 2016, June 2017 to Aug. 2017  
Machine Learning Intern

- Utilized a combination of ScoreData's machine learning platform and Python to create and assess the accuracy of 5 machine learning algorithms for diagnosing breast cancer and diabetes; findings were published in a research blog on the company's website (<http://scoredata.com/using-machine-learning-predictive-models-for-breast-cancer-diagnosis-2/>).
- Collaborated with the software department to test the company's machine learning platform, working to find bugs and inconsistencies in its ML model creation; specifically employed R to analyze data and discover bugs.
- Developed server code using Node.js to build out a "Labs" page that displays the various applications of the machine learning models made by users of the ScoreData platform.

## Projects

MVRT Scout Sept. 2015 to Current  
Data collection application for Monta Vista Robotics Team (MVRT) #115, utilized Firebase as a simple database and implemented NFC and QR codes for easy data-transfer between devices. Maintained year to year as goals for the competition are changed.

NVIDIA Jetson Trashformer June 2017 to Aug. 2017  
Software and machine learning models for a humanoid robot that was trained to detect paper cups and dispose of them autonomously within the workplace. Open sourced by NVIDIA Corporation to be used as the base for future projects pertaining to humanoid robotics.

## Awards

Intel · Intel Foundation - Andy Grove Scholarship Mar. 2018  
Scholarship awarded to 355 students across the world after a competitive application process.

AngelHacks Silicon Valley · AngelHacks - Best Use of Button SDK July 2017  
Awarded to the team that best utilized the Button SDK in their app. My team used the Button SDK to streamline the process of purchasing food from restaurants.

## Activities

Monta Vista Robotics Team · Aug. 2016 to May 2018  
President/Director of Electrical Engineering & Software Development/Driver

- Maintained a working repository of code for the robot on Github, reviewing and approving pull requests made by a team of 20 students.
- Oversaw the crimping of cables, testing of sensors, and wiring of the robot.
- Contributed to a significant portion of control software for the autonomous mode operation of the team's robot, including motion profiling and PID.
- Oversaw 150+ members involved in logistics and manufacturing of the robot, making executive decisions on the direction of the team, and guiding it to a successful season, ensuring that deadlines are met, and allocating proper resources for divisions.
- Controlled robot, as the driver for the team, under high stress at more than 3 competitions per year, making critical repairs to the robot in between matches.

## Volunteering

MathAndCodingTeacher/Co-Director of Robotics/Curriculum Developer June 2014 to June 2018  
Cupertino, CA

- Created a 4-week curriculum based on Lego robotics to inspire 500+ kids to pursue engineering.
- Taught 60+ classes, consisting of 20-25 students each, where students were encouraged to build their own Lego robots and program them to complete a series of tasks; based on exit surveys, about 60% were inspired to pursue a career in engineering.
- Taught 20+ classes, consisting of 20-25 students each, where students learned basic OOP using Java through a project based curriculum.