

## Experience

- Massachusetts Institute of Technology, Research Scholar** June 2015 – August 2015
- *Research Science Institute*: Fully funded summer fellowship at the MIT Meche MSEAS laboratory.
  - Wrote **parallelized path-planning algorithm with Matlab/Java/C++** using computational ocean models. Deployed navigation software to an **Ubuntu server cluster** to guide a robotic ocean test fleet. **Analyzed and visualized ocean current data** for pattern and anomaly detection.
  - A. Jain, "Time-Optimal Robotic Path Planning in Dynamic Ocean Flows: Efficiency and Sensitivity Studies," manuscript, 2015.
- Naval Postgraduate School, Robotics Research Intern** June 2014 – March 2015
- Wrote **distributed swarm control software** and pursuit-evasion behaviors in Python for **autonomous ground robots** using a master/slave and publish-subscribe model. Built automated testing and data collection software (**Python, NumPy**, Robot Operating System, Ubuntu, Bash, XML)
  - Helped build and live-fly a flock of fifty autonomous unmanned airplanes (UAVs).
  - A. Jain and T. H. Chung, "Mobile Robot Pursuit and Evasion: Developing a System for Distributed Robotic Chase and Targeting," manuscript, 2015. Intel STS Semifinalist (top 300 in US)
- GoMobileFirst, Software Engineering Intern** June 2013 – June 2014
- Developed *MyStudyHub Reader*, a collaborative online classroom for real-time annotation of books. Won grant from Tata Communications. (**Node.js**/Meteor.js, **MongoDB**, WebSockets)
  - Built *Staying Alive*: iOS app to detect driver drowsiness. Won AT&T grant. (Objective-C, **OpenCV**)
- Goalbook, Software Engineering Intern** June 2012 – August 2012
- \$1M venture funded educational technology startup serving over 500 districts [goalbookapp.com](http://goalbookapp.com)
  - Created **JavaScript charting library** on **D3.js** for **real-time visualization** of student progress.

## Honors & Skills

- Software Awards:** Champion, *TechCrunch Disrupt Hackathon* — Best Education App, *Global Tata Collaboration Hackathon* — Best of Hackathon, *AT&T Autism Speaks* — 3rd, *AT&T International Power Your Future*
- Research Awards:** Intel STS Semifinalist — Grand Prize, *Synopsys Science Championship* — Best Research Project, *US Coast Guard & US Navy* — 2nd, *California State Science Fair* — AIAA Intelligent Systems Award
- *Languages:* Java, Python, JavaScript, Matlab, some C++
  - *Data Science/Visualization:* NumPy, Jupyter, MongoDB, D3.js, Matplotlib
  - *Web/Mobile Web:* Node.js, Cordova, HTML5, CSS3
  - *Infrastructure/DevOps:* Git, Bash scripting, Linux, Robot Operating System

## Projects

[ajayjain.ne9t/files/abstracts.pdf](http://ajayjain.ne9t/files/abstracts.pdf)

- *Spruce*: a web app that improves student reading comprehension and accessibility. Led team of four, pitched at Disrupt 2013 and won the TechCrunch Disrupt Hackathon. (**Node.js**/Express)
- *Robotic Nurse*: a delivery and monitoring robot for hospitals and homes with autonomy software written in **Python**. Controlled remotely by a web/mobile dashboard built with **Node.js** and Angular.
- *Disaster Drones*: Rapid mapping by autonomous quadrotors. Quadcopters controlled by central Node.js server and local Android app. Survivor detection and image stitching with **OpenCV/Python**.
- *Hercules robot*: Helped build a versatile robot base with the Ubiquity Robotics team. (**Python**)

## Education

- Foothill College** UW GPA: 4.00/4.00 September 2015 – June 2016
- Took *Linear Algebra*. Applied credits from AP Calculus BC, Computer Science, Chemistry, Physics.
- Monta Vista High School** UW GPA: 4.00/4.00 August 2012 – June 2016
- **President**, *Web Development Club*
  - **President**, *Physics and Engineering Club*
  - **Director of Engineering**, *Research Club*
  - **Senior Captain** of Parliamentary Debate, *Speech and Debate Club*