

# William Ganucheau

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## EDUCATION

**Carnegie Mellon University**  
SCHOOL OF COMPUTER SCIENCE CLASS OF 2017

3.94 Cumulative GPA

Dean's List every semester

Selected Courses:

- (16-865) Advanced Mobile Robot Dev.
- (16-384) Robot Kinematics & Dynamics
- (15-410) Operating System Design & Impl.

## SKILLS

**Experienced:** C, C++, ROS

**Proficient:** git, Mercurial, Python, Javascript, HTML/CSS, Node, QT, Make, Using Google

## EXTRACURRICULARS

**Teaching Assistant for 15-122**, Principles of Imperative Computation. I held regular office hours, taught hands-on labs and lecture-style recitations, and graded homeworks and exams.

**Board member of MellonHeads**, a campus organization looking to spread the "hacker ethos" to disciplines other than computer science

## EXPERIENCE

### NASA Jet Propulsion Laboratory

SOFTWARE DEVELOPER SUMMER '16

- Researched and implemented RRT, RRT\*, RRT# and CLRRT# path-planning algorithms to evaluate the potential for use in the Mars 2020 rover mission
- Implemented automated test suite in ROS and integrated with JPL's official navigation simulation environment
- Presented my results to a team of researchers and project leads involved with the Mars 2020 mission

C++, ROS, PATH PLANNING

### CMU Robotics Institute

SOFTWARE DEVELOPER OCTOBER 2014 - PRESENT

- Designed and developed embedded software for an experimental lunar rover
- Led 15 member avionics team
- Chose parts such as microcontrollers and sensors and interfaced them with one another
- Developed robust communication protocols over UDP
- Programmed entire command & data-handling system

C, GIT, ROS, OPENCV, ATMEL STUDIO

### Autonomous Surface Vehicles, LTD

PROGRAMMER/SYSTEMS ANALYST SUMMER '15

- Developed incremental synchronization protocol that greatly reduced bandwidth consumption allowing large control plans to be transferred from land to autonomous vehicles
- Participated in regular code reviews

C++, QT, MERCURIAL

### C&C Technologies

SOFTWARE DEVELOPER SUMMER '13, SUMMER '14

- Developed physically accurate simulator for marine vessels
- Vastly increased company productivity by decoupling software and hardware testing
- Participated in regular code reviews
- Developed systems for procedurally generating terrain and simulating sensor noise

C++, QT, MERCURIAL