

Christopher Atwood

705 Hastings St
Pittsburgh, PA 15206

412-608-3182
catwood@gmail.com

EDUCATION

B.S. in Mechanical Engineering Graduated May 2005
Carnegie Mellon University, Pittsburgh, PA
Curriculum Focus: Mobile Robotics and Design for Manufacture
Major GPA: 3.35/4.0 Overall GPA: 3.31/4.0

EXPERIENCE

RedZone Robotics, Inc. Summer 2005 – January 2010

Product Manager of Solo (first autonomous inspection robot in the sewer industry)

- Wrote workflow software to track and manage all inspection data from robots through coding to shipment to customers.
- Assisted Marketing & Sales in product positioning, messaging, and creation of distributed materials.
- Trained customer deployment crews and RedZone field & shop technicians in operation, maintenance, and repairs.

Principal Engineer of Solo

- Led technical development team from initial concept generation through to turnkey manufacturing run.
- Designed sealed tractor sled including tracks, drive modules, reel with levelwind, clutches, and safety winch.
- Oversaw technical direction, testing, and debugging of robot mechanisms, electronics, and embedded software.
- Point of contact with manufacturing partner. Responsible for releases, BOM, drawings, training, & on-site inspections.

Mechanical Engineer on Responder (large pipe sewer inspection platform)

- Designed second generation of 3D laser rangefinder that is more positionally accurate and hardened for use in sewers.
- Designed 7-way proportional hydraulic manifold with onboard sensors and new hard-line routing.
- Designed improved electronics enclosures to improve performance, increase reliability, and ease maintenance.

Botrics, LLC Spring 2003 – Spring 2005

Founding Partner & Lead Mechanical Engineer

- Designed and oversaw fabrication of mechanical aspects of mobile robot targeted to university multi-agent researchers.
- Designed and fabricated custom features and accessories to robots as requested by customers.
- Provided responsive on-site and remote technical support.

Subterranean Research Group, Carnegie Mellon University Summer 2004 – Spring 2005

Student Researcher

- Designed and fabricated low power, compact, and rugged fixtures that turn 2D laser rangefinders into 3D units.
- Designed and fabricated rugged housing for cameras, computers, and associated electronics for these devices.
- Performed calculations which influenced hull and locomotive system of autonomous submersible.

Mobile Robot Programming Lab, Carnegie Mellon University Fall 2002 – Spring 2004

Student Researcher

- Developed and simulated simple locomotion method that allows a robot to climb and descend stairs autonomously.
- Assisted in the development and prototyping of mechanical aspects of urban search and rescue robots.
- Designed and built pan-tilt head for CCD camera.

Center for Automated Learning and Discovery, Carnegie Mellon University Spring 2004 – Summer 2004

Student Researcher

- Re-engineered mechanical drive train of existing research robot to increase reliability, precision, and accuracy.
- Assisted with redesign of electronics and wiring of existing robot to improve electrical integrity and aesthetic.

1bigthink Summers of 2000 – 2002

Web Developer

- Worked with team to develop custom customer-driven web-based JSP / J2EE applications.
- Assisted with database and application architecture design.

SKILLS

- *Machine Tools*: 3 axis CNC Mill, CNC Lathe, Manual Mill and Lathe, Fused Deposition Modeling.
- *Software Languages*: Ruby, C, SQL, Java, Python, JSP, C++, L^AT_EX, Shell Scripting, Standard ML.
- *Software Packages*: SolidWorks, MATLAB, MathCad, Eagle, CAMWorks, Open Dynamics Engine, ProEngineer, Protel, ANSYS.

ACTIVITIES

- President, *Carnegie Mellon Robotics Club*: Spring 2003 – Spring 2005
- Student Member, *American Society of Mechanical Engineers*: Fall 2001 – Spring 2005