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Lucas Doyle

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Education

Rensselaer Polytechnic Institute
Troy, NY **Fall 2008 - Spring 2012**

B.S., Computer and Systems Engineering, **GPA of 3.10**

Gilford High School
Gilford, NH **Fall 2004 - Spring 2008**

GPA of 4.00

Professional Experience

Harvard-Smithsonian Center for Astrophysics
Cambridge, MA **Summer 2009 - Present**

Automations Programmer / Engineer

Designed, constructed and programmed an experimental X-ray optic production facility. Wrote intuitive software to simplify fabrication of X-ray optics in multiple production scenarios. Designed sample manipulation hardware and a high strength production chamber mount using CAD. Saved time and lowered costs by developing a more efficient shutter controller now used on all production chambers in the lab. Worked closely with physicists, component vendors, machinists and other key stakeholders to complete project on time. Supervised a high school student to characterize potential optic substrates with a high precision 3D profilemeter.

Anybots, Inc.
Mountain View, CA **Summer 2011**

Robotics Intern

Solely designed and authored Anystats, a tool to statistically track, analyze and prioritize events from thousands of logs from a fleet of telepresence robots. Saved time by cross referencing event data with customer information and known bugs to dispatch engineering and support teams effectively. Also implemented UI features for touchscreen on forehead of robot, namely a dashboard to display internal robot device status and connectivity, as well as a call screen to allow users to answer or deny calls made to their telepresence robot.

Notable Projects and Open Source

Boeing Robotic Wingbox
Troy, NY **Spring 2012**

Team Leader and Lead Programmer

- Led a capstone team of engineering students to design a simulator for an intra-wing robot to operate inside an aircraft.
- Worked closely with Boeing to fulfill requirements for assembly and maintenance roles of operation.
- Implemented client / server architecture to distribute computation effectively and allow collaborative robot use.
- Designed and implemented a 3D interface with joystick integration to allow user to easily modify robot state.
- Wrote highly concurrent, high-performance server to control robot hardware, recognize object locations with OpenCV and plan kinematic trajectories to avoid collisions.

DaBuzz Market Sentiment Analyzer
Troy, NY **Spring 2012**

Team Member

- Designed and implemented web crawler and scraper to analyze financial news sources and gauge stock market sentiment.
- Assisted in implementation and training of classifier using Python Natural Language Toolkit.
- Gave presentations and poster sessions to the RPI Community about DaBuzz and the Rensselaer Center for Open Source Software.

Key Technical Skills

Software Development	Python, C++, C, Javascript, Java, PHP, MATLAB, LabVIEW. Seasoned GNU/Linux user. Familiar industry standard development workflows, version control systems and development patterns.
Computer Aided Design	Advanced experience with Solidworks. Virtually designed and simulated FIRST robots, a Battlebot, as well as vacuum chambers at Harvard-Smithsonian Center for Astrophysics.
Embedded Control	Authored control software for autonomous and semi-autonomous boats, blimps, cars and robots. Programmed for multiple microcontrollers (Intel 8051, ARM). Regularly build own servers and computers.
Web Technologies	Currently host own website on self-built framework with Amazon's Elastic Computing Cloud. Familiar with CSS/HTML, Django, Webpy, Wordpress core, various Google APIs and configuring a LAMP stack. Proficient with relational and non-relational databases.

Student Leadership and Activities

Red & White Student Organization
Troy, NY **Spring 2009 - Spring 2012**

Webmaster

Responsible for representing Rensselaer at high-visibility functions to its alumni, campus and community. As Webmaster, maintained a web presence for the organization.

The Baruch '60 Center for Bio-Solar Energy
Troy, NY **Spring 2009 - Present**

Webmaster and Systems Administrator

Created and maintained two websites, responsible for various IT and support tasks.

Rensselaer Judicial Board
Troy, NY **Fall 2009**

Member

Served in judgment for cases where student rights, responsibilities or conduct were in question.