Ryan Muller

Contact

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Objective

To create software that empowers people to discover, learn, and manage knowledge.

I understand effective learning and have worked with data and people to bring educational content into web interfaces. I would like to further my experience using machine learning and data to create adapative technology, particularly in the fields of education, healthcare, and scientific research.

Experience

Geknowm: Mapping human knowledge **Sept 2012 – Jan 2014**

Developed a complete web application (http://geknowm.com) using Ruby on Rails and JavaScript with Backbone.js for organizing educational content, authoring and taking quizzes, and developing and displaying a personal knowledge profile. Designed novel assessment interactions, knowledge extraction algorithms, scoring mechanisms, and data visualizations.

Learnstream: Web-based Learning Platform **2009 – 2011**

Client: Harvey Mudd College

Designed and developed innovative web-based learning platforms to enhance studying for students using video and spaced repetition. The software (http://rudinium.herokuapp.com) was piloted for a mathematics course with over 60 students at Harvey Mudd College. Led a team in developing a second version for physics and calculus content (http://learnstream.heroku.com).

Cooperative Search with Autonomous Vehicles in a 3D Aquatic Testbed **2010 – 2011**

Client: DYNAR (Dynamic Navigation for Aquatic Robots)

Project manager for a team of math and engineering students to develop an aquatic testbed and design and deploy control systems and cooperative behavior algorithms for robotic submarines. Presented work at the Joint Math Meetings in January 2011.

Resource Allocation for Cloud Computing **Summer 2010**

Microsoft Research Asia (UCLA Research in Industrial Projects for Students program)

Investigated modern research on cloud computing. Designed and simulated resource management systems for cloud computing.

Education

Carnegie Mellon University

PhD program (one year), Human-Computer Interaction Institute **2011 – 2012**

- NSF Graduate Research Fellowship recipient
- Program in Interdisciplinary Education Research (PIER) fellow

Harvey Mudd College

B.S., Joint Mathematics and Computer Science major **2007 – 2011**

- GPA: 3.73/4.0
- Math, computer science, and humanities departmental honors

Skills

Programming

Ruby, Python, Java, C, C++, C#, Scheme, Haskell, MATLAB

Web development

HTML, CSS, JavaScript/jQuery/Backbone.js, Rails, Django

Machine learning

Weka, educational data mining

Mathematics

Problem solving (top 500 Putnam), modeling (MCM Meritorious), tutoring, content writing