Daniel_Erenrich

♦ computer scientist ♦ programmer ♦ researcher ♦ innovator ♦

Education

California Institute of Technology
Bachelor of science with honors
Graduated 2011
Major: Computer Science
GPA: 3.5, **In-Major GPA**: 3.8
Interests: Machine Learning

Skills

Programming: Ruby, Python, Java, C, C++, Matlab
Web Programming: HTML, CSS, Javascript, jQuery, Prototype, PHP,
Tools: Windows, Linux, Git, SVN, MySQL, Visual Studio, Eclipse, Emacs, Mathematica, Matlab, Excel, Vowpal Wabbit, R

Other work

Donut Dev Team: Helped maintain and develop Caltech's student government website.
HedgeCo Networks: Implemented performance metrics for measuring hedge fund performance and created a customizable report generation framework for summarizing portfolio returns.

Contact

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Experience & Research

Free Text Profile Matching @ eHarmony (2011-Present)
Developed models to predict inter-user communication on the dating website eHarmony base on free text answers provided by the users. Models were created using the "vowpal wabbit" software package developed at Yahoo! research. Full project details remain under an NDA.

Ad-Log Data Mining & Visualization@ Google (2010)
Processed and analysed logs across the entire Google display network using technologies such as BigTable and MapReduce. These results were used to understand ande model user behaviour between cross-sections of the Web. Additionally novel visualizations techniques for this data were used in a web-interface for the project's results. Full project details remain under an NDA.

Clients-side CAPTCHA Generation @ Caltech (2009-2010)
Independently devised, designed and implemented a novel method for the generation of secure video CAPTCHAs client-side in python/cython. Won second in the Caltech Invention Competition earning me $10 thousand.

Wikipedia Vandalism Detection @ Caltech (2009)
Used machine learning techniques such as neural and Bayesian networks to analyze Wikipedia edit histories and detect vandalism. My group's program outperformed the community maintained heuristic based vandalism detector by a large margin.

Automated Object Detection & Dewarping @ Laserfiche (2009)
Developed a program to isolate a paper document or book from a low resolution photograph and then dewarp and OCR it. This required me to design metrics which evaluate the quality of the image segmentation and to use basic learning systems such as decision trees to convert these metrics into a decision and a final dewarping. Full project details remain under an NDA.

"Wikiscanner" @ Caltech (2008)
Created a new more intelligent version of the web utility Wikiscanner. I mined for conflict of interest edits by correlating the known IP ranges of organizations with the IPs of edits and the topics of the edited articles. The website is still popular and recieved media attention.