Adam G. Roth

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EDUCATION

University of Pittsburgh School of Medicine, Department of Biomedical Informatics August 2013 – April 2015
Degree: Masters of Science
Major: Biomedical Informatics

University of Pittsburgh School of Arts and Sciences, Department of Biological Science August 2008 – April 2012
Degree: Bachelor of Science
Majors: Biology, Chemistry

WORK EXPERIENCE

National Physician Assistant Education/ Blanket, LLC August 2015 - present
Solutions Architect, Founder
- Manage all aspects of technical implementation and business intelligence
- Developed website, marketing campaigns, and product branding
- Co-authored best-selling certification exam review book for Physician Assistants

US Department of Veterans Affairs April 2015 – September 2015
Enterprise Architect
- Contracted by U.S. Department of Veterans Affairs Informatics and Computing Infrastructure
- Developed applications and EHR database enhancements to support 40,000 researchers across VA
- Designed NLP and machine learning algorithms to synthesize information across 3.5 petabytes of patient data

HealthStratica April 2015 – September 2015
Lead Software Developer
- Worked with both front-end and back-end systems
- Maintained automated text messaging system, database, and analytics
- Worked primarily in SQL, Python, PHP, html, and various APIs

Upwork April 2014 – present
Data Mining Specialist
- Completed short term machine learning and data analytics projects as freelancer
- Scouted, interviewed, and hired freelancers for Blanket, LLC.
- Managed and trained teams of remote/overseas developers

University of Pittsburgh Department of Biomedical Informatics October 2013 – May 2015
Informatics Engineer Research Associate
- Developed algorithms and computer systems to optimize the use of health information
- Specialized in the application of natural language processing to biomedical free-text
- Machine learning and text mining applied to protein interaction prediction

University of Pittsburgh Department of Biological Science January 2010 - January 2012
Laboratory Technician
- Molecular and cellular biology research regarding Mucolipidosis type IV pathogenesis
- Applied molecular cloning to assemble recombinant DNA for various relevant projects
- Synthesized molecular-level data to hypothesize interactome-level disease mechanisms

UPMC Hillman Cancer Research Center December 2008 - May 2009
Data Warehouse Manager
- Developed automated cancer history classification algorithm for EHR data
- Assisted framework development for the National Mesothelioma Virtual Bank
- Java based query tool for supporting and facilitating translational tissue research

TECHNICAL EXPERTISE

Computer Skills:

- General Purpose Programming Languages: Python, Mumps, C# /ASP.net, some: Java
- Statistical Programming: R, Numpy, Stata. Some: WEKA, MATLab
- Other Programming Languages: D3.JS, HTML, CSS, SQL, PHP, JS, bash, SPARQL, Jess, Prolog
- Applications: Common windows word processing, database, spreadsheet, presentation and graphic design software.
- Operating Systems: Unix/Linux, Windows

ACADEMIC RESEARCH

Biomedical Event Extraction for Validating Protein-Protein Interaction Hypotheses
Developed state of the art biomedical text mining methods to validate existing protein-protein interaction predictions

Enhancing Biomedical Text Summarization Using Latent Semantic Analysis
Created a framework to extrapolate protein-protein interaction predictions by analyzing textual semantic similarity

Connecting Academic Researchers through Publication Content Similarity Analysis
Combined NLP, text-mining, and graph theory to detect networks of similar academic researchers

PUBLICATIONS

Publications

- "Literature Based Similarity Score of Protein-Protein Interactions"
    - IEEE Transactions on Computational Biology and Bioinformatics (2015)

RELEVANT COURSEWORK

Basic Sciences

Calculus I, Introduction to Biology I and II, Organic Chemistry I and II, Chemistry I and II, Physics I and II, Mathematics of Biology, Biochemistry, Human Physiology, Plant Biology, Ecology, Genetics

Advanced

Introduction to Bioinformatics, Introduction to Clinical Informatics, Object Oriented Programming, Introduction to Clinical Environment, Probabilistic Methods of Artificial Intelligence, Symbolic Methods of Artificial Intelligence, Research Methods in Biomedical Informatics, Publication and Presentation in Biomedical Informatics, Biostatistics I, Database Management, Benchtop to Bedside Translational Research

AWARDS/ HONORS

University of Pittsburgh School of Medicine Graduate Student Research Assistantship
University of Pittsburgh Superior Academic Performance Scholarship recipient
National Society of Collegiate Scholars Inductee
Tri-Beta National Biological Honor Society Inductee
Grant Award Judge IBM International Science and Engineering Fair 2015
2015 CTSI Randall Big Idea Finalist

ORGANIZATIONS

HL7 Voting Member