BRENDAN KING

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EDUCATION

University of Washington, Seattle *June 2017*
B.S. in Computer Science & Engineering
Overall GPA: 3.63
Senior Research Project: Explorations in Deep Learning for Recipe Generation

RESEARCH AND WORK EXPERIENCE

Software Development Engineer II June 2016 - Sept. 2016, Sept. 2017 - Present
Apptio, Inc.

- Current technical lead on a project that coordinates automated provisioning of all Apptio applications directly from customer data in Salesforce. Collaborate with non-technical teams to develop requirements, and design and implement interfaces for application teams to meet these needs.
- Design and technical lead for a new project: a message broker interface for Apptio applications. We provide a generic, authentication and authorization aware, highly available messaging interface between Apptio applications.
- Develop and operate platform-level shared services to be used throughout Apptio applications and products
- Develop requirements, define interfaces for consumers, architect technical solutions to large and small problems, resolve operational issues, and communicate work to consumers.
- Served as the primary mentor for our most recent engineering intern, who joined our team at the end of their internship.

Undergraduate Researcher January - June 2017
UW Allen School of Computer Science & Engineering
Dr. Yejin Choi

- Completed a senior research project on natural language generation and common-sense reasoning working with graduate students under guidance of Dr. Yejin Choi.
- Developed and analyzed an attention-based recurrent neural network model in Torch for recipe generation: supervised translation of a list of ingredients and dish title into a natural language procedure for producing the dish.
- Explored reinforcement learning training objectives to augment and improve our model for recipe generation.
- Studied and discussed of contemporary methods for natural language generation and other NLP tasks with other researchers.
- Submitted a complete report detailing this experience and our experiments, which is available on my website: kingb12.github.io/recipe-generation.html

Computational Research Intern June 2015 - March 2017
Institute for Systems Biology
Dr. Nathan Price

- Engaged in primary research and tool development for constraint-based metabolic reconstruction and analysis, focusing on clade-reconstruction and network gap-filling.
- Implemented the probabilistic annotation algorithm and its application to probabilistic network gap-filling as a python package. This work was published in *Bioinformatics*.

- Designed and implemented algorithms for metabolic model translation from one organism to a genetic relative with improved preservation of evidence-based reactions relative to existing translation methods. This work was presented at the *COBRA 2018* conference and a manuscript is in progress.
- Presented our work internally and collaborated with researchers at other institutions throughout the process.

PUBLICATIONS AND WRITTEN WORK

Journal Articles

Brendan King, Terry Farrah, Matthew A Richards, Michael Mundy, Evangelos Simeonidis, and Nathan D Price. ProbAnnoWeb and ProbAnnoPy: probabilistic annotation and gap-filling of metabolic reconstructions. *Bioinformatics*, Volume 34, Issue 9, 01 May 2018, Pages 1594–1596.

Conference Presentations

Evangelos Simeonidis, Brendan King, Matthew A Richards, and Nathan D Price. Mighty Morphing Metabolic Models: Leveraging Manual Curations for Automatic Metabolic Reconstruction of Clades. *5th Conference on Constraint-Based Reconstruction and Analysis.* International Metabolic Engineering Society. 14 Oct. 2018. Poster presentation.

Other Writing

Brendan King, Antoine Bosselut, and Ari Holtzman. Explorations in Deep Learning for Recipe Generation. 2017. University of Washington. http://kingb12.github.io/recipe-generation.html

TECHNICAL STRENGTHS

Languages:	Java, Python, SQL, Lua, C, C++, Javascript, Bash, Ruby, Haskell
Tools & Frameworks:	Git, MySQL, Torch, Dropwizard, Angular, jOOQ, Latex, React, D3, AWS: EC2, StepFunctions, RDS, ELB, SQS
Knowledge Areas:	Software Design & Implementation, Natural Language Processing, Natural Language Generation, Machine Learning, Computational Biology, Metabolic modeling, Constraint-based linear optimization