

SAMUEL A. BRETZ

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EDUCATION

Georgia Institute of Technology, College of Computing
Candidate for Bachelor of Science in Computer Science
Concentration in Artificial Intelligence and Information Internetworks

Atlanta, Georgia
December 2018

ACHIEVEMENTS

Microsoft Main Prize Winner at HackIllinois 2018, Team FyveBot

- Created a chatbot application using Microsoft's chatbot framework that allows users to quickly learn new concepts.
- Leveraged Bing Search, Bing News, Azure Cloud, Azure Bot Framework, YouTube, and Alien Summarizer APIs to RESTfully gather data, summarize it using NLP techniques to 2000 characters or less and present it to the user.
- One of 12 U.S. teams selected to compete in the United States Finals of the Microsoft Imagine Cup.

EXPERIENCE

Software Engineering Intern at The Home Depot, Search Components Division Jan 2018 – May 2018

- Constructed data pipeline for converting raw user search data into training data for machine learning models.
- Utilized the seq2seq neural machine translation method to create machine learning models in Python 3 which realistically represent human error in search query spelling.
- Developed generative natural language processing models using Tensorflow and OpenNMT which gave the potential for infinite creation of training data for the spellchecking engine.

Software Engineering Intern at Technicolor Connected Home May 2017 – Aug 2017

- Built a Cloud Controller for registration and control of Technicolor's industry leading Docsis modems, routers and set top boxes.
- Implemented the controller using Go to leverage concurrent programming to assist with load balancing of Ubuntu 16.04 web servers.
- The controller can handle up to 1,000,000 requests per second with no performance loss.

Ruby on Rails Developer at Vernacular Labs Aug 2016 – Dec 2016

- Developed a Ruby on Rails media monitoring web application that crawls a set of websites created by the user, parses the data and sends chosen sections to user managed email groups.
- Configured and managed a production grade Ubuntu 14.04 web server using PostgreSQL, Nginx and Unicorn to host the application.
- Gained indispensable experience in Agile and iterative software development methodologies.

Google igniteCS Executive Member Jan 2017 – March 2017

- Designed 16 courses for the Georgia Tech section of Google's igniteCS Program. The courses teach introductory Computer Science topics ranging from types and variables to data structures and object oriented programming.
- Taught as a lecturer for a class of 14 female high school students from the local area surrounding Georgia Tech and assisted them in mastery of the aforementioned topics.

RELEVANT SKILLS & OTHER

- Programming Languages: Python (Expert), Java (Expert), C (Expert), Go, (Proficient), Ruby (Proficient), Swift (Proficient), HTML 5 (Proficient), JS (Familiar), LC-3 Assembly (Familiar)
- Software: Git, Sci-kit Learn, Pandas, Numpy, Scipy, TensorFlow, GCP, PyTorch, Gym, Azure, Linux, Unix, CUDA