

Simon Zeng

simonzeng9@gmail.com | (480)-358-8318 | <http://simon-zeng.com/>

1806 14th Avenue Apartment C, Seattle, WA 98122

EDUCATION

Johns Hopkins University, Baltimore MD

May 2020

Bloomberg Scholar

Majors: Computer Science, Cognitive Science | *Minor:* Applied Mathematics and Statistics

Focus: Natural Language Processing

TECHNICAL SKILLS

Proficient in Java, C#, PowerShell and Python (including TensorFlow, PyTorch, Matplotlib, NumPy, Pandas libraries).

Proficient in Azure Cloud Services (Azure Certified as well as multi-year experience).

Experience with C, Android App Development, Web Development Tools/Frameworks:

Frontend: JavaScript (primarily React) | *Backend:* MySQL, Node.js, Django

PROFESSIONAL EXPERIENCE

Software Engineer | Microsoft | Redmond WA

Aug 2020 – Present

Team: Cloud Governance

- Create automated Azure solutions to enforce cloud configuration standards and reference architectures across enterprise software, improving the security posture of the applications and services that run Microsoft as a whole.
- Developed end to end an automated remediation mechanism that supports half of the company's cloud resources. This service identifies and fixes resources that are noncompliant towards company security standards, resulting in the monthly decline of thousands of security vulnerabilities while also saving ~48 hours of manual engineer effort. This effort has helped contribute to a 20% security compliance increase in many of the company's divisions.
- Designed and implemented (end to end) an automated testing environment/tool for Azure Policy, the logic that dictates a resource's compliancy. This reduced environment creation/deletion time by 70-75% (around 55-60 minutes), allowing for more efficient and robust testing across the team.

Visiting Researcher | Human Language Technology Center of Excellence | Baltimore MD

May 2019 – Feb 2020

- Designed and constructed neural architectures for capturing document-level ontologies and contexts to use for improving named entity recognition results through multi-task learning.
- Explored entity discovery and classification in low resource situations (few-shot entity typing).
- Improved multi-label topic identification baseline F1 (accuracy) results by 0.05 in the Russian dataset and 0.06 in the Chinese datasets through conducting transfer learning on an NER task and using BERT embeddings. [\[View Poster\]](#)
- Continued independent research investigating the usage of deep metric learning to create meaningful word and document-level vector representations that can be directly used for classification, ranking, and clustering tasks, especially in low-resource situations.

Design Team Leader | Johns Hopkins University | Baltimore MD

Aug 2018 – May 2019

Sponsor: Textron Systems

- Investigated the usage of hyperspectral imaging in food allergen detection to create a commercially viable product.
- Achieved 98% (binary) and 75% (multinomial) classification accuracy through utilizing machine learning and deep learning techniques to develop a pixel-by-pixel algorithm that determines the presence of major food allergens.
- Implemented a web application to calculate heatmaps of allergen probability distributions in given images to provide estimated allergen location. [\[View Poster\]](#)

PROJECTS

Machine Learning Based Video Streaming | AI Project (Tensorflow/JavaScript/Dashjs/Flask)

- Used reinforcement learning in adaptive bitrate algorithms, allowing for the maximization of streamed video quality and minimization of buffer time in uncertain conditions. [\[View PowerPoint\]](#)

Foreign Accent Conversion | AI Project (Tensorflow)

- Created a voice conversion model that first converts the speech input (non-native speaker) into text using a speech recognition model (LSTM) before feeding that into a text-to-speech model (encoder-decoder architecture) trained with native speaker data. [\[View Paper\]](#)