

Simon Zeng

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EDUCATION

Johns Hopkins University, Baltimore MD

May 2020

Bloomberg Scholar (\$19,000 over 4 years)

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

Focus: Natural Language Processing | *GPA/Major GPA:* 3.25/3.39

TECHNICAL SKILLS

Proficient in Java, C, Python (including TensorFlow, Keras, PyTorch, Matplotlib, NumPy, Pandas libraries)

Familiar with C++, Lambda Notebook, MATLAB, Android App Development, Web Development Tools/Frameworks:

Frontend: Javascript (FW: Angular, React) | *Backend:* SQL, Node.js, PHP

PROFESSIONAL EXPERIENCE

Research Scholar | Human Language Technology Center of Excellence | Baltimore MD

May 2019 - Present

- Design and construct neural architectures for capturing document level ontologies and contexts to use for named entity recognition.
- Improve entity discovery and classification in situations with limited annotations and resources (few-shot entity typing).

Design Team Leader | Johns Hopkins University | Baltimore MD

Aug 2018 – May 2019

Advisor: Dr. Charbel Rizk | *Sponsor:* Textron Systems

- Investigate the usage of hyperspectral imaging in non-invasive food allergen detection to create a commercially viable product.
- Utilize machine learning and deep learning techniques to develop a pixel-by-pixel algorithm that takes an image of a food product and determines the presence, location and amount of certain food allergens through calculating specific mathematical features.

Software Development Intern | Bloomberg School of Public Health | Baltimore MD

May 2018 – Aug 2018

- Created tools (Python, ASP, ASP.NET) utilized in the maintenance and analysis of the Epidemiology Dept's clinical and personnel data to increase efficiency both in terms of intradepartmental communication and clinical results attainment.
- Transitioned the department's online forms and database resources to support Chrome usage.
- Built and demonstrated prototypes of progressive web apps, proposing for the department to utilize them to minimize manual data entry and improve client accessibility, to address department wide issues regarding data reliability and accuracy.

PROJECTS

Bilingual Transfer Learning with Novel Word Processing | NLP Project (Python)

Feb 2019 – Present

- Construct neural models for novel word processing on morphologically poor languages (English) through utilizing transfer learning on morphologically richer languages (Finnish). Currently testing graph-based model with biaffine attention and BiLSTM layers.

Amazon Review Sentiment Analysis | Data Analysis/Machine Learning Project (Python)

Dec 2019 – Jan 2019

- Conducted analysis of Amazon reviews of Android Apps using Pandas and Matplotlib libraries. Includes a logistic regression model (Sklearn library) to predict whether a given review has positive or negative connotations.

FoodLab | Android Mobile Application (Java)

March 2018 – May 2018

- Implemented app that provides recipes when given ingredients. Recipes can be sorted by relevancy, time needed and rating. Utilizing the Spoonacular API, it provides an avenue for users to exchange tips and ratings on dishes in an open forum environment.

COMMUNITY INVOLVEMENT

Undergraduate Teaching Assistant | Johns Hopkins University | Baltimore MD

Aug 2018 – Present

Courses: Intro Programming in Java, User Interfaces and Mobile Applications (Java)

- Support the above courses through providing coursework feedback and reinforcing lecture material with students one on one.
- Act as scrum master and mentor for various groups as they develop their own Android applications. Provide both UI/UX feedback and implementation guidance as necessary.

Head of Family Volunteer | Thread | Baltimore MD

Sep 2016 – Present

- Mentor underperforming high school students confronting significant barriers outside of the classroom to foster the students' academic advancement and personal growth.
- Oversee a group of volunteers and a student while acting as an intermediary link between the group and upper management to find and access Baltimore-based resources to promote the student's success.

EXTRACURRICULARS & OTHER INFORMATION

Extracurriculars: JHU Undergraduate Admissions (*PR Staff*), Chinese Student Association (*Culinary Chair*), Club Tennis

Languages: Mandarin Chinese (*Fluent*), French (*Limited Working Proficiency*), Spanish (*Limited Working Proficiency*)

Interests: Preparing Sushi, NLP Research Blogging, Bartending, Cooking, Baking