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 and Python (including TensorFlow, PyTorch, Matplotlib, NumPy, Pandas libraries)
Familiar with C, C++, Android App Development, Web Development Tools/Frameworks:
    Frontend: JavaScript (React) | *Backend:* SQL, Node.js, Django

PROFESSIONAL EXPERIENCE

Visiting Researcher | Human Language Technology Center of Excellence | Baltimore MD   May 2019 – August 2019
- Designed and constructed neural architectures for capturing document-level ontologies and contexts to use for greater 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 0.33 in the Russian dataset and 0.35 in the Chinese datasets through conducting transfer learning on an NER task.

Design Team Leader | Johns Hopkins University | Baltimore MD   Aug 2018 – May 2019
Advisor: Dr. Charbel Rizk | *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 allergen location.

Software Development Intern | Bloomberg School of Public Health | Baltimore MD   May 2018 – Aug 2018
- Developed software utilized by the Epidemiology Department to aid in clinical data analysis and maintenance.
- Built and demonstrated prototypes of progressive web apps that address issues regarding data reliability and accuracy by minimizing manual data entry and improving client accessibility.

PROJECTS

Instagram Caption Generator | Data Analysis/AI Project (Python)   June 2019 – Present
- Trained a neural model to output captions given input images by using web-scraped Instagram data. Currently using a multi-stage pipeline that uses BERT embeddings through various recurrent and convolutional neural architectures.

Spotify Music Recommender | AI Project (Python)   May 2019 – Present
- Created a music recommendation service utilizes a user's age to create a baseline music taste from which similar songs can be found through using audio convolutional models and descriptive sentiment bucketing terms.

Bilingual Transfer Learning with Novel Word Processing | NLP Project (Python)   Feb 2019 – Present
- Construct neural models for novel word processing on morphologically poor languages by utilizing transfer learning on morphologically richer languages. Currently testing graph-based model with biaffine attention and BiLSTM layers.

COMMUNITY INVOLVEMENT

Undergraduate Teaching Assistant | Johns Hopkins University | Baltimore MD   Aug 2018 – Present
Courses: Intro Programming in Java, User Interfaces and Mobile Applications (Java/Android Development)
- Support the 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.

EXTRACURRICULARS & OTHER INFORMATION

Extracurriculars: Undergraduate Admissions (*PR Staff*), Chinese Student Association (*Culinary Chair*), Club Tennis
Interests: Cooking (preparing sushi), Baking, Bartending