Wesley Wei Qian

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Education

University of Illinois at Urbana-Champaign | Champaign, IL **AUG 2017-MAY 2022**

Doctor of Philosophy in **Computer Science: Machine Learning & Bioinformatic**

GPA: **4.00** / 4.00

Awards: **University Fellowship, Richard T. Cheng Endowed Fellowship**

Brandeis University | Waltham, MA **SEP 2013-MAY 2017**

Bachelor of Science in **Computer Science** and **Neuroscience**

GPA: **3.96** / 4.00 (Overall) **4.00** / 4.00 (CS)

Awards: **Phi Beta Kappa (Junior), Schiff Fellowship, Collaborative Research Grant, Summa Cum Laude**

Experience

RESEARCH SOFTWARE ENGINEERING INTERN | GOOGLE **MAY. 2018-AUG.2018**

- Worked in the Google Accelerated Science Team at Google AI where we collaborated with chemists and biologists in universities/labs to accelerate drug discoveries with image based cell screening
- Developed a Generative Adversarial Network based model remove batch-to-batch effect in cell imaging including dye intensity, imaging device, lighting condition etc. The multi-domains transformation significantly improve downstream analysis by removing the batch effect biases.
- Opened source the implementations and contributed to Tensorflow and Tensorflow Model

GRADUATE RESEARCH ASSISTANT | UIUC **AUG. 2017-PRESENT**

- Worked on various research topics in bioinformatics and computational chemistry using a data driven neural network approach with Prof. Jian Peng
- Research topics include protein sequence profiling, protein structure contact prediction, and graph based neural network for molecule property prediction

SOFTWARE ENGINEERING INTERN | UBER **MAY. 2017-AUG. 2017**

- Investigated different machine learning models to predict couriers' states during food pickup for Uber Eats trip and identified key data quality issues causing underperformance in various models.
- Developed Kernel Conditional Random Field for time-series prediction problem drawing interest from multiple teams and won **the first prize** for Uber's first internal machine learning poster session.

SOFTWARE ENGINEERING INTERN | UBER **JUN. 2016-AUG. 2016**

- Created and designed an internal tool for mobile developers to investigate UI test failures on Uber's continuous integration platform in full speed by aggregating and synchronizing test logs and videos
- Reduced debugging time for mobile engineers by more than 50%

UNDERGRADUATE RESEARCH ASSISTANT | BRANDEIS UNIV. **MAY. 2015-MAY. 2017**

- Worked on various research topics around computer science, biology and computational linguistic using neural network/deep learning, statistical machine learning and graph algorithms.
- Research topics include natural language dialogue generation, graph spatial pattern extraction for protein structure and neural morphology, and protein sequence embedding.

CODEU PARTICIPANT | GOOGLE **MAR. 2015-AUG. 2015**

- Worked with three other participants to create a contact transfer Android application that transfers users' contact and social platform info with NFC or QR Code
- Presented the application at Google Tech Corner and won **the runner-up for Engineer's Choice**

Projects

ON-GOING RESEARCH **AUG. 2017-PRESENT**

- Rational Graph Neural Network for Molecule Property Prediction and Generation
- End-to-End Protein Structure Prediction via 3D-Geometry
- Neural Memory Network based Protein Sequence Profiling

SPATIAL PATTERN EXTRACTION WITH BIOLOGY APPLICATION **MAY. 2015-AUG. 2017**

- Implemented and optimized graph algorithms to extract pattern in attributed relational graphs
- Built pattern extracting algorithm for protein 3D structure mining and neuron morphology study
- Leveraged techniques in word embedding and generate feature vector for each amino acid
- Project was supported by **Jerome A. Schiff Fellowship**

DISCOURSE PARSING IN CHINESE MESSAGES **JAN. 2016-AUG. 2017**

- Crawled and preprocess text from social network for data analysis and model training
- Developed various neural network for sentence representation or sentence relation classification
- Project was supported by **Student/Faculty Collaborative Research Grant**

RESTAURANT REVENUE PREDICTION **APR. 2015**

- Predicted restaurant revenue for TFI, the company behind some of the world's most well-known brands including Burger King and competed with other data scientist on Kaggle
- **Rank 38th (<2%) among 2257 teams from all over the world**
- Github project: https://github.com/WesleyyC/RestaurantRevenuePrediction

JEEVES: MOBILE VIRTUAL ASSISTANT **JUL. 2014-AUG. 2014**

- Created Jeeves, an Android voice-powered virtual assistant for everyday routines
- Focused on conversational dialogue and provided user a natural interaction with the app
- Crafted with JavaScript, HTML, CSS, news/weather/gmail API, Bootstrap, AngularJs and PhoneGap
- **Runner-Up of AVIOS Mobile Speech Application Contest 2015**
- Github project: https://github.com/arikalfus/Jeeves

PERFECT TIC-TAC-TOC PLAYER **MAY. 2015-SEP. 2015**

- Implemented a Tic-Tac-Toc game and a perfect player who will never loose
- Integrated the python software with Raspberry Pi and breadboard for an hardware game console
- Github project: https://github.com/WesleyyC/TicTacToe

FOR MORE

- **https://github.com/WesleyyC**

Courses

- **ML**: Statistical Machine Learning, Computer Vision, Big Data Analysis
- **Bioinformatics**: Computational Neuroscience, Bioinformatics, Algorithmic Genomic Biology
- **System**: Operating System, Distributed Systems, Database Management Systems
- **Engineering**: Data Structure, Algorithm Design, Compiler, Functional Programming

Skills

- **Programming skills in** Java, Python, MATLAB , Go, JavaScript
- **Proficient with** TensorFlow, PyTorch, Hadoop, MapReduce, Spark, Hive, MongoDB, PSQL
- **Experience in** Big Data Analysis, Distributed System, Android Development, Statistical Machine Learning, Deep Learning, Computational Linguistic, Bioinformatic and Neuron Modeling
- **Enjoy** farmer's market, photograph, biking, golf, and equestrian