

# Kuan-Yu Chen

chenky@brandeis.edu | [www.linkedin.com/in/chen-kuan-yu/](http://www.linkedin.com/in/chen-kuan-yu/)  
Greater Boston Area, MA | (413) 800-9661

## EDUCATION

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**Brandeis University**, Waltham, MA Aug. 2018 – May 2020  
*Master of Science in Computer Science*  
Capstone Project for Software Engineering, Database Management Systems, Big Data Analysis, Natural Language Processing Systems, Information Retrieval, Computational Molecular Biology

**National Taiwan University (NTU)**, Taipei, Taiwan  
*Bachelor of Science in Life Science (Biology)* Sept. 2010 – June 2014  
Language Technologies and Computational Linguistics, Biostatistics

## COURSE PROJECTS

<https://github.com/chenky0401/>

### Twitter-like Service Platform [Ruby on Rails, Heroku]

- Build and deploy a MVC architecture based web application with user authentication.
- Design and implement ORM and database architecture using ActiveRecord and PostgreSQL.
- Write functional, unit, and integration tests for quality assurance and test-driven development.
- Manage the project with Scrum-like agile framework with a team of 4.

### Information Retrieval System for TED [Python, Flask, ElasticSearch]

- Built IR system that supports multi-field search on TED talks using ElasticSearch and Flask.
- Designed a TF-IDF based recommendation system and incorporated with multimedia results (video, Youtube comments, word cloud, etc.)

### Non-Neural Named Entity Extractor [Python, pycrfsuite]

- Built NER system with Brown clusters and word embeddings features on CoNLL 2003 English data.
- Analyzed performance with different feature set configurations and achieved overall F1 score of 92.5.

### Stochastic Simulation of Virus Population Dynamics [Python, Flask]

- Modeled and visualized patient receiving treatments and drug resistant virus in object-oriented way.
- Implemented backend server with Python Flask and interactive web GUI using simple Ajax.

### Circuit Parsing and Optimization [C++]

- Created circuit parsers that construct And-Inverter Graphs (AIGs) from description files.
- Optimized circuits using post-order DFS and constant propagation.

## EXPERIENCE

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**Graduate Teaching Assistant**, Brandeis University Sept. 2019 – Dec. 2019  
*Introduction to Natural Language Processing with Python*

- Held weekly office hours to help students strengthen their Python skill and graded assignments.

**Freelance Professional English/Mandarin Interpreter**, Taipei, Taiwan Sept. 2015 – May 2018

- Collaborated with professionals from diverse industrial and cultural backgrounds.
- Provided consecutive and simultaneous interpretation services at technology conferences.

**Mandatory Military Service**, Taipei, Taiwan Oct. 2014 – Sept. 2015  
*Tri-Service General Hospital*

- Assisted with the management of the Post-Graduate-Year Medical Training Program.

## SKILLS

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**Programming languages:** Python, Ruby, Java, C++, SQL, HTML5, CSS  
**Technical skills:** Linux, Git, GitHub, Rails, Heroku, Flask, Apache Spark, NLTK, ElasticSearch  
**Languages:** English (near native), Mandarin (native), Spanish & Taiwanese (conversational)

## HONORS AND AWARDS

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**Spring Table Tennis Open U1800 2nd Place**, Boston University April 2019  
**International Youth Ambassadors of Taiwan**, Ministry of Foreign Affairs July 2014