

# Kuan-Yu Chen

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## EDUCATION

<b>Brandeis University</b> , Waltham, MA	Aug. 2018 – May 2020
<i>Master of Science in Computer Science</i>	
Capstone Project for Software Engineering, Database Management Systems, Big Data Analysis, Natural Language Processing Systems, Information Retrieval, Computational Molecular Biology	
<b>National Taiwan University (NTU)</b> , Taipei, Taiwan	
<i>Bachelor of Science in Life Science (Biology)</i>	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

<b>Graduate Teaching Assistant</b> , Brandeis University	Sept. 2019 – Dec. 2019
<i>Introduction to Natural Language Processing with Python</i>	
• Held weekly office hours to help students strengthen their Python skill and graded assignments.	
<b>Freelance Professional English/Mandarin Interpreter</b> , Taipei, Taiwan	Sept. 2015 – May 2018
• Collaborated with professionals from diverse industrial and cultural backgrounds.	
• Provided consecutive and simultaneous interpretation services at technology conferences.	
<b>Mandatory Military Service</b> , Taipei, Taiwan	Oct. 2014 – Sept. 2015
<i>Tri-Service General Hospital</i>	
• Assisted with the management of the Post-Graduate-Year Medical Training Program.	

## SKILLS

**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)  
Boston University Table Tennis Spring Open 2019 Finalist.

## HONORS AND AWARDS

<b>Table Tennis Spring Open U1800 Finalist</b> , Boston University	April 2019
<b>International Youth Ambassadors of Taiwan</b> , Ministry of Foreign Affairs	July 2014