

Ruei-Yao Sun

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EDUCATION

University of Massachusetts Amherst

Master of Computer Science (Overall GPA: 3.83/4.0)

Amherst, MA

Sep 2019 – Apr 2021 (Expected)

- Selected Courses: Distributed System, Mobile Computing, Advanced Algorithms, Software Engineering, Natural Language Processing, Information Retrieval, Neural Networks

National Chiao Tung University

Master & Bachelor of Information Management (Overall GPA: 4.2/4.3)

Hsinchu, Taiwan

Sep 2012 – Jun 2018

- Relevant Courses: Data Structures, Operating System, Database, Parallel Computing, Web Application Design, Data Mining

WORK EXPERIENCE

Trend Micro Inc

Software Engineering Intern | *Python, Numpy, Scikit-Learn*

Jul 2017 – Sep 2017

Taipei, Taiwan

- Built up a end-to-end machine learning pipeline for script type classification with Random Forest, mutual information and a combination of word vector representation, including word2vec, N-gram and grammar productions.
- Achieved 95% accuracy on testing data (200K+), and conducted a post hoc test to explain predictions with LIME model.

E.Sun Bank

Data Engineer Intern | *Python, Pandas, Regular Expression, Multiprocessing*

Jul 2016 – Aug 2016

Taipei, Taiwan

- Pre-processed hundred millions of credit card transactions into a unified format using regular expression and Levenshtein distance, and utilized Python multiprocessing to speed up.
- Discovered business insights from consumer behavior by leveraging RFM model, word-cloud and Tableau.

RESEARCH EXPERIENCE

Computational Linguistics and Information Processing Laboratory, Academia Sinica

Research Assistant | *Python, Tensorflow, Hierarchical Attention Networks, Neural Ranking*

Oct 2018 – Feb 2019

Taipei, Taiwan

- Improved 12.7% for ranking company risk in two correlation metrics than traditional methods by integrating Hierarchical Attention Networks with pairwise learning, and discovered risk-related sentences/words through attention mechanism.
- This work was accepted for AAAI 2020 Workshop.

JP Morgan

Oversea Graduate Researcher | *Python, Tensorflow, Multi-Scale Convolutional Neural Networks*

Feb 2017 – Jun 2017

Hsinchu, Taiwan

- Extracted important indicators from financial statements and exploited RandomForest to pick blue-chip stocks.
- Obtained twice the cumulative return of S&P 500 ETF in backtesting using self-designed probability weighting function to allocate the portfolio dynamically with Multi-Scale Convolutional Neural Networks.

Capital Securities Corp

Graduate Researcher | *Spark, JavaScript, Bootstrap, Node.js*

Dec 2016 – Jun 2017

Hsinchu, Taiwan

- Clustered millions of investors through K-means, and interpreted their investment behavior using Decision Tree with Spark.
- Established a website offering customized advice and financial instruments recommendations with JavaScript and D3.js, and is currently being utilized by fifty thousand of customers.

SELECTED PROJECTS

Social Distancing Mobile App | *Java, Python Flask, MongoDB*

Jan 2020 – Apr 2020

- Implemented a Jobservice on Android to record user's location and nearby Bluetooth devices in background regularly.
- Designed the UI layout for the mobile app, and set up a Flask server to estimate users' social distance score by analyzing uploaded timelines and scraping the latest COVID-19 confirmed cases with BeautifulSoup.

EleNA: Elevation Based Navigation | *JavaScript, Python Django, Git*

Sep 2019 – Dec 2019

- Developed a map based application utilizing a modified Dijkstra's algorithm that finds an optimal route between two points by considering elevation additionally, leading to 30% greater than Google Map in elevation gain.
- Built an interactive web interface using Google Map API, Bootstrap and jQuery with Django, and deployed on Heroku.

PicDia Mobile App | *Java, Python, PHP, MySQL*

Feb 2016 – May 2016

- Created a mobile app that help children to learn English using object recognition, TextToSpeech and speech recognition.
- Won the first prize in National 4G Cloud Application Competition 2016 hosted by the Ministry of Education, Taiwan.

SKILLS

- Language:** Python, Java, R, Matlab, C++, PHP, JavaScript, SQL
- Framework:** Tensorflow, Spark, Hadoop, Django, Flask, Bootstrap