# Po-Kai Chang

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## Education

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| **Rice University**, Houston, TX | **Overall GPA: 3.91/4.0** | Aug. 2019 – Expected Dec. 2020 |

Professional Master of Computer Science
Relevant Courses: Object-Oriented Programming and Design (Java, HTML5, JavaScript), Web Development (JavaScript, HTML5, React, Redux), Tools and Models for Data Science (PostgreSQL, Spark, Numpy, Python)

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| **National Taiwan University** (NTU), Taipei, Taiwan | **Overall GPA: 3.78/4.0** | Sep. 2010 – Jul. 2015 |
| Dual BS Degrees in Mathematics & Economics | **Rank: 17/150** | |

Minor in Computer Science
Presidential Awards (Top 5% in academics)                                                    Fall'10, Spring'11, Fall'12
Relevant Courses: Algorithms, Linear Algebra, Machine Learning, Artificial Intelligence, Computer Networks, Operating Systems

## TECHNICAL EXPERTISE

**Programming**: JavaScript (ES5/ES6), Python (2.7/3.0), Scala, Java, C/C++, Linux Shell, Awk
**Containerization:** Docker, Kubernetes, Docker Compose, Swarm
**Database**: Redis, MySQL, Prometheus, MongoDB, Elasticsearch, SQLite, Postgresql
**Quality Assurance/Visualization**: Automation testing (Mocha, Chai), CI/CD (GitLab, Jenkins), Kibana, Grafana
**Web Development:** Express, Babel, React, HTML5, SCSS, Webpack, ESLint, Cypress, jQuery, WebSocket, Promise
**ML libraries**: Keras, Tensorflow, SciPy, Scikit-learn, DL4j, LIBSVM, Matplotlib
**Others:** NumPy, Git, Nginx, AWS EC2, Spark Cluster, Vim + Tmux, Kafka cluster, Regular expression

## PROFESSIONAL EXPERIENCE

**Chaintech Technology Corporation – Software Engineer** – Taipei, Taiwan                    May 2018 – Aug. 2019
*Siton Cloud Management Platform (SCMP) <Docker, Kubernetes, Node.js, Bash, Git, React, React Hooks, HTML5, Express, Babel>*
- Created an ML-driven cloud platform, SCMP, through Kubernetes with 5% of the competing solution's cost.
- Developed SCMP's website by React enabling users to easily manage tasks and data in distributed machine learning.
- Led the development team and introduced to it the key frameworks as well as languages such as Kubernetes and Node.js.
*Central Monitor System (CMS) <Docker, Python, Bash, Git, Prometheus, Grafana, Git, HTML5>*
- Reinvented and delivered Central Monitor System (CMS) to manage 2K+ mining rigs in an intuitive interface.
- Designed, implemented, and assisted in deploying backend infrastructures for both SCMP and CMS agilely.

**Freelance – Software Engineer** – Taipei, Taiwan                                         Sep. 2017 – Apr. 2018
- Analyzed e-commerce ecosystems and provided consulting to vendors to create maintainable products delivery plans.
- Reduced user complaints from startups' businesses by connecting more payment solutions to their backend logics.

**Groundhog Technologies – Software Engineer / Data Scientist** – Taipei, Taiwan            Jul. 2015 – Aug. 2017
*Mobility Intelligence Demand-Side Platform (MI DSP) <Docker, Java, Redis, ELK, Node.js, Python, Tensorflow>*
- Delivered MI DSP for telecoms integrating with 5.6M subscribers' data for precise ad targeting.
- Implemented highly scalable RTB modules in limited resources through Nodejs, Redis, and Kafka to support MI DSP.
- Designed MI DSP architecture and achieved secure offline deployment through Docker and shell scripts.
- Scaled MI DSP to process 5K+ queries per second from Ad Exchanges, user responses, and 3rd party monitoring sites.
- Built ad targeting models by Keras/TensorFlow and connected MI DSP with Ad Exchanges like Google DoubleClick.
- Innovated a user satisfaction indicator from telecom data by LIBSVM to improve user experiences in phone calls.
- Redesigned the geolocation labels classifier via subscribers' location attributes through RBM and DNN in DL4j.

## PROJECTS & ACTIVITIES

**Machine Discovery and Social Network Mining Lab – Research Assistant** – NTU, Taiwan        Feb. 2015 – Jun. 2017
- Researched in both multi-label multi-task demographic attributes prediction and recommendation systems (fake rating detection and correction) – MI DSP adopted optimization ideas from research for runtime bidding tasks.
- Implemented open-source SNE (Structured Neural Embedding) library in NumPy (https://pypi.org/project/SNE-lab/).

**Special Research at Communication and Multimedia Lab – Research Assistant** – NTU, Taiwan    Feb. 2015 – Jun. 2015
- Designed a Minecraft-like first-person shooter – crafted in Unity3D and compatible with Google Cardboard.

**ICCAD 2015 Contest – Team leader** – NTU, Taiwan                                          Feb. 2015 – Jun. 2015
- Proposed a variation on Greedy algorithm to solve Color Balancing for Double Patterning Problem within a week.

**Asia-Pacific Student Entrepreneurship Society – Chief of Operation** – Taiwan Branch        Oct. 2012 – Jan. 2014
- Led the core operation team and held weekly fireside chats with entrepreneurs about their experience running startups.