

# Zi-Chao Lin

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## WORK EXPERIENCES

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- **Microsoft, AI R&D Center** Taipei, Taiwan  
Research and Development Intern Jun.2018 - Jan.2020
  - **Bing Maps:** A web service for users to find locations and places
    - Designed a new data pipeline for data centers to improve their reliability (XML)
    - Replaced the threshold-based approach with machine learning models for improving the quality of Bing Maps answers (Python/C#)
    - Ran A/B testing for analyzing models and validated enhanced accuracy and geo-relevance in Bing Maps answers
- **National Chengchi University** Taipei, Taiwan  
Undergraduate Research Assistant and Teaching Assistant
  - **Undergraduate Research Assistant, NCCU Blockchain Group** Jan.2019 - Sep.2019
    - Advisor: Prof. Kung Chen
    - Modified the smart contracts for experiments and surveyed the performance of Ethereum JavaScript API
    - Developed a prototype for testing blockchain environment and added user interfaces for real-time debugging
  - **Undergraduate Research Assistant, Software Engineering Laboratory** Jan.2018 - Jan.2019
    - Advisor: Prof. Chun-Feng Liao
    - Surveyed internet protocols for sensor nodes in home networks, including ICMPv6 and MQTT-SN
    - Implemented a Lua-based plugin on Wireshark for network monitoring
  - **Teaching Assistant, Object-Oriented Programming** Sep.2018 - Jan.2019
    - Instructor: Prof. Tsai-Yen Li
    - Taught different aspects of Object-Oriented Programming using C++ in TA office hours every week
    - Prepared class materials and graded homework
  - **Teaching Assistant, Programming 101** Feb.2018 - Jun.2018
    - Instructor: Prof. Jhe-Wei Lin
    - Taught the basic syntax of Python and advised on final projects during TA office hours
    - Facilitated and managed about one hundred students
- **Academia Sinica** Taipei, Taiwan  
Summer Intern Jul.2018 - Aug.2018
  - **Computational Finance and Data Analytics Laboratory**
    - Advisor: Prof. Chuan-Ju Wang
    - Built a music recommender system using KKBOX datasets and Item Concept Embedding (Python/Javascript)
    - Developed a web system by Node.js to demonstrate recommended results
- **Galaxy Software Services** Taipei, Taiwan  
Software Engineer Intern Jul.2017 - Jan.2018
  - **Financial Business Department**
    - Built internal systems and web applications using the Model-View-Controller pattern (Visual Basic/C#)
    - Maintained and modified database schema to satisfy the normalization in light of the requirements of banks (SQL)

## EDUCATION

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- **National Chengchi University (NCCU)** Taipei, Taiwan  
Bachelor of Science in Computer Science Sep.2015 - Jun.2019
  - **Overall GPA:** 4.17/4.30
  - **Ranking:** 1/46

## SELECTED PROJECTS & OPEN SOURCE CONTRIBUTIONS

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- **Homebrew/homebrew-core 7.7K** ☆ Jun.2020
  - Updated the package dependencies in the homebrew formulae for auto-installing (Ruby)
  - Created a Ruby script to test whether the packages successfully installed
- **mozilla/addons-server 661** ☆ Jun.2020
  - Improved the user interface in content review page for developers to easily check (Javascript)
- **Interactive web service of PCA analysis** Jun.2019
  - Built a Shiny application to visualize Anderson's Iris dataset by R
  - Designed intuitive and efficient user interface and deployed to shinyapps.io
- **iCourse** Jun.2018
  - Implemented a system for course selection with real course information in NCCU using Ruby on Rails framework and performed unit tests with RSpec
- **3D First Personal Shooting Game** Jan.2018
  - Designed a 3D shooting game using Unity, where players can shoot zombies and protect the base

## PUBLICATIONS

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- **Oral Presentation**
  - **Zi-Chao Lin** and Chun-Feng Liao, "ICMPv6SD: A Compact Service Discovery Protocol Supporting Plug-and-Play in Home Networks," in Proc. International Conference on Platform Technology and Service (PlatCon'19), Jeju, Korea, 2019. [[paper](#)] [[slides](#)]
    - Presented the enhanced design built on top of the results reported in the TCSE paper
    - Detailed a new compression mechanism, improved protocol, and rigorous evaluation
  - **Zi-Chao Lin** and Chun-Feng Liao, "A Lightweight Plug-and-Play Home Service Management Scheme based on ICMPv6," in Taiwan Conference on Software Engineering (TCSE), Tainan, Taiwan, 2018. (In Chinese)
    - Proposed a preliminary internet protocol that could reduce the network traffic in home networks

## HONORS AND AWARDS

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- **Academic Excellence Award, NCCU** Jan.2016, Jun.2016, Jan.2017, Jun.2017, Jun.2018
  - Awarded to the top 3 undergraduate students in a department per semester for excellent academic performance
- **Department of Computer Science Senior Project Contest 2018, NCCU** Dec.2018
  - Received honorable mention among all computer science students
- **Scholarship of Lungshan Temple** Nov.2018
  - Awarded to college students in Taipei (only 31 students in NCCU) for excellent academic performance, with sponsorship for about 330 U.S. dollars per student
- **Programming Contest of Special Interest Group Programming 2018, NCCU** May.2018
  - Won the first prize among 27 participants (9 groups)

## TECHNICAL SKILLS AND STRENGTHS

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- **Programming Languages:** Python, Javascript, Java, C<sup>#</sup>, C/C++, SQL
- **Software & Tools:** Amazon Web Services, Google Cloud Platform, Heroku, Git, Tensorflow
- **Language:** Chinese (Mandarin), English
- **Test scores:** TOEFL iBT: 104 (R:29, L:27, S:22, W:26), GRE: 322 (Q:169, V:153, AW:3.5)