Li-An Yang

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li-an.me

Education

Sep. 2018 - Present	University of California, San Diego	Computer Science	M.S. Student
Sep. 2012 – Jun. 2016	National Chiao Tung University	Computer Science	B.S. 2016

- GPA: 3.53/4.00, Last 60 Units: 3.92/4.00
- Relevant Courses (*graduate level courses):
  Data Mining*, Cloud Computing Systems*, Intro. to Database Design, Statistics, Technology Entrepreneurship

Feb. 2016 – Jun. 2016	Université de technologie de Compiègne	Exchange Student

Publications

1. **Li-An Yang**, Wei-Chun Chung, Yu-Jung Chang, Shu-Hwa Chen, Chung-Yen Lin, & Jan-Ming Ho. The Spiral Assembler: An Iterative Process of NGS De Novo Genome Assembly with Machine-Learning for Subset Selection on Quality-Score and K-Mer Landscape. Technical Report, submitted to Institute of Information Science, Academia Sinica. doi: TR-IIS-18-001.
2. **Li-An Yang**, Jui-Pin Liu, Chao-Hong Chen, & Ying-Ping Chen. Automatically Proving Mathematical Theorems with Evolutionary Algorithms and Proof Assistants. In Proceedings of 2016 IEEE Congress on Evolutionary Computation (CEC 2016). (pp. 4421–4428). doi: 10.1109/CEC.2016.7744352. (EI). [Github]

Work Experience

Research Assistant, Institute of Information Science, Academia Sinica — Mar. 2017 – May 2018

- **SQUAT - *a Sequencing QUality Assessment Tool***
  - Provided read mapping analytics and visualized assessment results in a portable HTML report
  - Devised metrics for researchers to identify poor-quality reads and determine overall quality upon data gathering
- ***De Novo* Genome Assembly**
  - Proposed an intelligent process of genome assembly with XGBoost for subset selection of sequencing reads
  - Achieved the relative improvements of assembly results ranging from 25% to 35% on N50 statistic
- **User Intention Understanding on Taiwan Open Platform for Educational Resources**
  - Revealed search keyword trends via website log data characterization
  - Developed and automated the keyword generation pipeline for resource recommendation in primary education

Private, Military Police, Taiwan (compulsory military service) — Sep. 2016 – Jan. 2017

R&D Intern, Email Reputation Services Division, Trend Micro Inc. — Jul. 2015 – Aug. 2015

- **Pattern Recognition**
  - Simulated patterns of malicious mail attacks with log-based data hashing and clustering

Selected Term Projects

Automatically Proving Mathematical Theorems with Evolutionary Algorithms and Proof Assistants [Link] [Github]

- The first to generate formal proofs automatically by exploiting proof assistant Coq with evolutionary algorithms
- Proved ten theorems in different branches of mathematics automatically: Arithmetic, Logic, & Parity

A Voice-controlled Streaming Jukebox based on IBM Bluemix Cloud Service [Link]

- Established music streaming services on Raspberry Pi featuring personal music recommendation
- Deployed IBM Watson APIs to carry out on-demand speech-text transcription and social networking services

Right Whale Recognition Competition on Kaggle [Link]

- Adopted a bag-of-features model to extract distinctive image features
- Improved the evaluated score by thirty percent in limited time

A Gitlab Continuous Integration Cloud Service [Link]

- Built a cloud service for version control that automatically ran builds and self-testing when a commit was pushed
- Launched multiple composite cloud applications via a yaml template on Openstack

Skills & Test Scores

Programming Languages Python, R, MATLAB, C/C++, HTML, Javascript, PHP

Languages English (fluent), Mandarin Chinese (native), French (basic)