Yi-Wei (Dylan) **Chen**

Ph.D. Student

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Research Focus

Neural architecture search, distributed optimization, label noise, Bayesian optimization, distributed system

Education

Texas A&M University — *College Station, U.S.A.*

Ph.D. student in Computer Science and Engineering — *Aug. 2018 -*

- GPA: 4.0/4.0

National Taiwan University (NTU) — *Taipei, Taiwan*

M.S. in Computer Science and Information Engineering — *Feb. 2014 - Sep. 2015*

- GPA: 4.04/4.30
- Thesis: Virtual Hadoop: MapReduce over Docker Containers with an Auto-Scaling Mechanism for Heterogeneous Environments

National Taiwan University (NTU) — *Taipei, Taiwan*

B.S. in Electrical Engineering — *Sep. 2008 - Jun. 2012*

- GPA: 3.79/4.00 (84.25/100)

Work Experience

Data Analytics at Texas A&M (DATA) Lab — *College Station, U.S.A.*

Research Assistant — *Aug. 2018 -*

- Invented a model parallelism for neural architecture search with 1.18× speedup.
- Designed a novel neural architecture search, which improved 3% accuracy under high-level symmetric label noise.
- Wrote a survey paper of Automated Machine Learning, including automated feature engineering, model selection, hyperparameter tuning, and neural architecture search.

Trend Micro — *Taipei, Taiwan*

Software Engineer — *Feb. 2016 - Aug. 2018*

- Allowed users using customized rules for scanning suspicious objects in YARA format.
- Interacted with Microsoft Active Directory (AD) via LDAPv3 protocol, including password authentication, searching AD users and groups, and querying parent groups of an AD user and total members of an AD group.
- Fulfilled secure connection with CheckPoint Firewalls via SSL certificate and CheckPoint SDK OPSEC.
- Integrated Palo Alto Panorama and virtual systems of Palo Alto Firewalls via PAN XAPI.

Performance, Applications, and Security Lab (PAS) Lab — *Taipei, Taiwan*

Research Assistant — *Sep. 2014 - Aug. 2015*

- Built Hadoop in Docker Containers over heterogeneous computing resources containing CPU, GPU, Heterogeneous System Architecture (HSA).
- Designed a performance model of MapReduce to estimation its execution time in heterogeneous distributed environments.
- Designed a QoS scheduler with an auto-scaling mechanism which allocate heterogeneous computing resources for MapReduce Applications.
- Improved the deviation between actual execution time and time requirement of MapReduce from 0.74 to 0.15 (less is better).

Publications

Journal Paper

- **Yi-Wei Chen**, Qingquan Song, Xi Liu, P.S. Sastry, Xia Hu, "On Robustness of Neural Architecture Search under Label Noise", Frontiers in Big Data, Jan. 2020
- **Yi-Wei Chen**, Qingquan Song, Xia Hu, "Techniques for Automated Machine Learning", ACM SIGKDD Explorations Newsletter, Dec. 2020

Conference Paper

- **Yi-Wei Chen**, Shih-Hao Hung, Chia-Heng Tu, Chih Wei Yeh, "Virtual Hadoop: MapReduce over Docker Containers with an Auto-Scaling Mechanism for Heterogeneous Environments", 2016 Research in Adaptive and Convergent Systems (RACS), Odense, Denmark, Oct. 2016

Technical Skills

Languages Python, C, Bash, Java, C++, Ruby, HTML, PHP, Verilog, MATLAB

Tools PyTorch, Scikit-Learn, Git, Perforce, Trello, JIRA, Latex, Docker, Flask, Django, Ruby-on-Rails, Hadoop