

Hsu, SHU-HSUAN

PERSONAL DATA

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WORK EXPERIENCES

- 2018/10 - PRESENT | **Full Stack Engineer, Kronos**
Team Lead of Dark Pool Trading System:
I manage a team of 4 developers that focus on building a crypto-currency dark pool trading system from scratch. I designed the system architecture, defined the development road-map, and coordinated with the business side. The system is designed into several micro-services and can scale up dynamically based on system loading. We also build up a fully automatic CI/CD pipeline that including code lint, document generation, unit/regression test, and deploys the system to the Kubernetes cluster.
- System Architect and Administrator:**
Built-up and maintaining the infrastructure of research architecture, including set up parallel computing resources by utilizing Slurm, created a distributed shared file system for data storage, and help to purchase equipment. Brings the concept of continuous integration/deployment and monitoring to the company, which reduces the error caused by manual deployment. And I also implement an alert dispatch system that reduces the reaction time from hours to a few minutes when an error occurred.
- Trading Strategy Development:**
Implemented and co-worked in several trading strategies, which include event-driven strategy and high-frequency trading strategy. Designed and implemented a simulation pipeline tool that can optimize the strategy's hyper-parameters based on customized objective functions and rules. Also involved in the whole trading pipeline, including infrastructure, trading, and research.
- Web Development:**
Implemented a GUI for a trading system that can help traders change the parameter dynamically. Designed and built a web application for a customer accessible portfolio dashboard. And I also created numerous in-house tools to visualize strategy performance, monitoring cluster status, and so on.
- 2016/09 - 2018/02 | **Unix System Manager, National Taiwan University**
Maintained more than 25 Unix workstations, numerous web services, and mail server. During service, I migrated mail service from Postfix mail server to Google G-Suite and achieved zero downtime. Moreover, I built a multi-server GPU status monitor and an automatic notification system that can notify the administrator when something went wrong on any workstations.
- 2015/09 - 2016/08 | **Full Stack Web Developer, Dcard Taiwan Ltd.**
Developed and maintained both the front-end website and back-end API server that have more than hundreds of thousands daily active users, increased registration rate by refining registration flow. Built a new version of the website and administration dashboard/panel using modern web framework React.js and migrated the database under 12 hours downtime using Golang.
- 2015/02 - 2016/08 | **Adjunct Research Assistant, National Chengchi University**
Worked on computer graphic project, designed novel algorithms for image stylization and assisted with paper writing, providing supplementary materials and giving research speech at conferences.

EDUCATION

- 2016 - 2018 | **Master of Science, National Taiwan University**
- Major in Information Management (Overall GPA: 3.7/4.3)
- Thesis: Transferring Deep Reinforcement Learning with Adversarial Objective and Augmentation
- Advisor: Prof. Bing-Yu Chen
- 2012 - 2016 | **Bachelor of Science, National Chengchi University**
- Double major in Computer Science and Management Information Systems (Overall GPA: 4.0/4.3)
- Advisor: Prof. Ming-Te Chi

PUBLICATIONS

- [1] **S.-H. Hsu**, I.-C. Shen and B.-Y. Chen. Transferring Deep Reinforcement Learning with Adversarial Objective and Augmentation, *arXiv*, 2018
- [2] Y.-C. Wu, **S.-H. Hsu**, M.-T. Chi and W.-H. Liao. 2.5D stylized application using anisotropic reaction-diffusion, *SIGGRAPH ASIA Posters*, 2016
- [3] M.-T. Chi, W.-C. Liu and **S.-H. Hsu**. Image stylization using anisotropic reaction diffusion, *The Visual Computer* 32 (12), 1549-1561, 2016

SELECTED SIDE PROJECTS

Coherent Line Drawing, C++, OpenCV, OpenMP, WxWidgets

- Create line drawing styled image from photography by using flow based difference of Gaussian. With an easy-to-use, real-time interactive GUI.
- 300+ Stars and 30+ forks on Github. Code can be found at <https://github.com/SSARCandy/Coherent-Line-Drawing>

Deep CORAL, Python, PyTorch

- Implementation of 'Deep CORAL: Correlation Alignment for Deep Domain Adaptation.', ECCV 2016
- 100+ Stars and 20+ forks on Github. Code can be found at <https://github.com/SSARCandy/DeepCORAL>

Image stylization using anisotropic reaction diffusion, C++, OpenCV, OpenMP, WxWidgets

- Create stylized image by using reaction-diffusion model and novel thresholding method.
- Code can be found at <https://github.com/cglabnccu/stylizationRD>

HONORS

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| - Honorable Mention , Computer Graphic Workshop, TAIPEI ACM SIGGRAPH | 2018 |
| - 1st Place , Social Network Application Contest, National Chengchi University | 2014 |
| - 2nd Place , Academic Excellence Award, National Chengchi University | 2014 |
| - Honorable Mention , Computer Graphic Workshop, TAIPEI ACM SIGGRAPH | 2014 |

SKILLS

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| LANGUAGES: | Chinese (Native), English (Fluent) |
| COMPUTER LANGUAGES: | JavaScript [5+ years]; Python [3 years]; C++ [2 years]; Shell [2 years]; |
| DEVOPS/TOOLS: | Docker, Kubernetes, GitLab Runner, Jenkins, Prometheus, Grafana, AWS, GCP |