Tossaporn (Tree) Saengja

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Short Bio

Five years' experience in research, industry, and teaching. Developed advanced models and led teams.

Education

Massachusetts Institute of Technology

Masters of Engineering in Computer Science and Engineering — 4.8/5.0 2019 – 2020

Bachelor of Science in Computer Science and Engineering — 4.8/5.0 2015 – 2019

Awards

4th, MIT ZERO, ACM Boston Preliminary 2016 (BOSPRE) among 37 teams over 16 schools

85th, Bronze, **International Olympiad in Informatics 2013 (IOI)** among 299 contestants over 77 countries

Experience

SiData+, Siriraj Hospital — Data Scientist — 2024 – Present

- Collaborating with SCB 10x to develop a medical reasoning Large Language Model (LLM) for general medical purpose.

PreceptorAI, CARIVA — AI Consultant — 2023 – Present

- Developed machine learning models in collaboration with Siriraj Radiology Department:
  - a multi-label (muscle, fats) segmentation model (nnUNet, 0.98 Dice) for vertebrae L3 in MRI images (PyTorch).
  - an image-to-text model (Vision-Large Language Model) on chest X-ray images to report findings (PyTorch).
  - a generative text-to-image model (diffusion model) for chest X-ray images (PyTorch, MONAI).
- Led Research on Gindee, a nutrition estimator platform, using Vision-Large Language models.

Vision and Learning Lab, VISTEC — Research Assistant — 2023 – 2024

- Under supervision of Prof. Supasorn Suwajanakorn, worked on generative models (e.g. diffusion models).
- Worked on collocation in real images by distilling stable diffusion's prior knowledge (Score Distillation Sampling).
- Worked on local attention masking in CLIP for zero-guidance segmentation.
- Experimented on memorization of diffusion models in CIFAR-10 dataset.

Mahidol Wittayanusorn High School — Computer Science Teacher — 2020 – 2023

- Coached students to represent Thailand in IOI 2022.
- Lectured data science (Python), special topics (Web Development, Blockchain), Computer Olympiad (C++), and programming (Python).
- Advised year-long student projects, mostly machine learning.

Agnos — Technical Cofounder — 2019 – 2023

- Developed, with physicians, a diagnosis system (Python, Django) (130k diagnosis records, 50k active users).
- Led teams: Data Science (Redash), AI, and Growth.
- Team raised funds in Shark Tank Thailand S3 for 30M baht.

Facebook, Notification Backend — Intern — 2017

- Implemented a production pipeline for network effect prediction models, both classification and regression, using HiveQL and FBLearner Flow within Facebook's machine learning framework.
- Increased 0.5% comments metrics in production with 2 billion active users at the time.

MIT Media Lab, Human Dynamics — Researcher — 2018 – 2020

- Under supervision of Yan Leng, developed a novel optimization framework to learn the underlying network structure and individual marginal benefits in large-scale, real-world datasets.
- Learning Quadratic Games on Large-Scale Networks: Prepared large-scale, real-world datasets for optimization frameworks to learn the underlying network structure and individual marginal benefits.

Publications

Chinchuthakun, W., Saengja, T., Tritrong, N., Rewatbowornwong, P., Khungurn, P., & Suwajanakorn, S. (2025). *LUSD: Localized Update Score Distillation for Text-Guided Image Editing (under review).*

Rewatbowornwong, P., Chatthee, N., Saengja, T., Chuangsuwanich, E., & Suwajanakorn, S. (2025). *ZeroGuideSeg++: Improving Local Attention Masking in CLIP for Zero-Guidance Segmentation (under review).*

Udomlapsakul, K., Pengpun, P., Saengja, T., Veerakanjana, K., Tiankanon, K., Khlaisamniang, P., Supholkhan, P., Chinkamol, A., Aussavavirojekul, P., Phimsiri, H., Sripo, T., Boonnag, C., Tongdee, T., Siriapisith, T., Saiviroonporn, P., Kinchagawat, J., & Ittichaiwong, P. (2024, August). GPU Poor's Guide to Radiology Report Generation. *The 23rd Workshop on Biomedical Natural Language Processing and Bionlp Shared Tasks.*