Jonathan Hans Soeseno

AI Research Engineer

Jonathan is a research engineer from Inventec Corp, a world-leading computer and electronics manufacturer with more than 16 billion USD annual revenue. At Inventec AI Center, he focuses on improving its manufacturing processes and pushing its technological advancements through deep learning algorithms. Speaks English, Chinese, and Native in Bahasa Indonesia.

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WORK EXPERIENCE

AI Research Engineer
Inventec Corporation

02/2019 - Present   *Taipei, Taiwan*

Summary

- Invented a novel transition mechanism between motions of simulated characters that enables motion repertoire expansions without additional learning **[P1]**.
- Devised an accurate inventory simulation and forecasting solution for AI-assisted inventory management, leading to a ~40% reduction in real-world inventory cost.
- Developed the first-place solution for the intelligent forecasting competition hosted by USAID in 2020.
- Designed a character controller to produce natural and life-like movements of simulated characters while obeying high-level user directives using Deep-RL and GAN **[P4]**.
- Implemented order forecasting scheme into a centralized system to improve lead-time and maintain reliable product supply of the inventory management process **[P3]**.
- Researched and deployed SOTA deep learning solutions for internal business units (three accepted US patents and three pending patent applications).

Deep Learning Engineer Intern
Industrial Technology Research Institute

07/2018 - 09/2018   *Zhudong, Taiwan*

Summary

- Designed a pipeline to clean, preprocess, encode, and decode MIDI files.
- Developed MAC-Net, an endless music generator using LSTM as the backbone.
- Implemented GAN to improve the LSTM's memory stability for endless music generation.

SKILLS

Python PyTorch TensorFlow Keras

Pandas C#/C++/Java Computer Vision

Image Processing OpenGL

EDUCATION

Computer Science (M.Sc)
National Taiwan University of Science and Technology (NTUST)

02/2017 - 01/2019   *Taipei, Taiwan - GPA (4.19/4.3)*

Summary

- Thesis: Controllable and Identity-Aware Facial Attribute Transformation using GAN **[P2]**.
- Improved training and inference efficiency of facial attribute manipulation **[P5]**.
- Best Master Thesis Award IICM 2019.

Computer Science (B.Sc)
Petra Christian University

08/2013 - 02/2017   *Surabaya, Indonesia - GPA (3.94/4.0)*

Summary

- Cisco Networking Academy 2016 NetRiders CCENT ranked 8th in APACJ and 3rd in Indonesia.
- Final project: OCR for Indonesia's National ID card using traditional image processing and SVM.

PUBLICATIONS

[P1] Transition Motion Tensor: A Data-Driven Approach for Versatile and Controllable Agents in Physically Simulated Environments - SIGGRAPH Asia 2021 Technical Communication
Jonathan Hans Soeseno*, Ying-Sheng Luo*, Trista Pei-Chun Chen, and Wei-Chao Chen (*joint first authors)

[P2] Controllable and Identity-Aware Facial Attribute Transformation - IEEE TCYB 2021
Daniel Stanley Tan*, Jonathan Hans Soeseno* , and Kai-Lung Hua (*joint first authors)

[P3] Demystifying Data and AI for Manufacturing: Case Studies from a Major Computer Maker - APSIPA 2021
Yi-Chun Chen, Bo-Huei He, Shih-Sung Lin, Jonathan Hans Soeseno, Daniel Stanley Tan, Trista Pei-Chun Chen, and Wei-Chao Chen

[P4] CARL: Controllable Agent with Reinforcement Learning for Quadruped Locomotion - SIGGRAPH 2020
Ying-Sheng Luo*, Jonathan Hans Soeseno*, Trista Pei-Chun Chen, Wei-Chao Chen (*joint first authors)

[P5] Faster, Smaller, and Simpler Model for Multiple Facial Attributes Transformation - IEEE Access 2019
Jonathan Hans Soeseno, Daniel Stanley Tan, Wen-Yin Chen, Kai-Lung Hua