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

- Invent the transition motion tensor to enable controllable and versatile character movements in physics-enabled simulation (**P1**).
- Devise a multi cross-validation scheme for inner- and cross-product demand forecasting towards insightful AI-assisted inventory management.
- Develop the first-place solution of the intelligent forecasting competition hosted by USAID in 2020.
- Design a controller for simulated characters using Deep-RL and GAN such that the character produces natural movements while obeying high-level user directives (**P4**).
- Implement order forecasting to reduce the inventory cost and maintain reliable product supply of the inventory management process (**P3**).
- Research and deploy SOTA deep learning solutions for internal business units (6 issued and pending patents).

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 Generative Adversarial Networks (**P2**).
- Improved training and inference efficiency of facial attribute manipulation, achieved (**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

- Participated in 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 computer vision, 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*