CHAN JUN SHERN

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Work & Education

2022 ***Research Intern*** at Center for Human-Compatible Artificial Intelligence (with Dan Hendrycks)

(Ongoing) Summer internship to investigate power-seeking behavior of AI agents in text-based environments.

2022 ***Visiting Researcher*** at New York University (with Ethan Perez via Fund for Alignment Research)

[1] "Meta-training on Table Datasets Makes Better Few-shot Learners." ACL Rolling Review, upcoming.
***Jun Shern Chan**, Michael Pieler, Jonathan Jao, Jérémy Scheurer, Ethan Perez.*

I extract a large-scale multitask dataset for few-shot learning (400k tasks) from internet tables. Fine-tuning on our dataset improves language models' few-shot behavior, and I perform dataset ablations to study how task features and composition affect few-shot capabilities. I led development and experimentation for the majority of this project.

[2] "Training Language Models with Language Feedback." ACL 2022.
*Jérémy Scheurer, Jon Ander Campos, **Jun Shern Chan**, Angelica Chen, Kyunghyun Cho, Ethan Perez.*

We introduce a novel approach for language models to learn from natural language feedback. Using only 100 samples of human-written feedback, our learning algorithm finetunes a GPT-3 model to roughly human-level summarization ability. I worked on the finetuning experiments and contributed to discussions on the approach.

2018-21 ***Senior Research Engineer*** at Motional (formerly Aptiv, formerly nuTonomy)

As the first member of the Calibration team, I prototyped and built most of our team's algorithms for camera, LiDAR, and radar sensor calibration using a mix of computer vision and multi-view geometry. As our vehicle fleet grew, my favorite contribution was a tool enabling researchers to test new algorithms at scale: new algorithm code gets pushed to cloud infrastructure running a custom benchmark equivalent to testing on 100s of vehicles across 5 locations worldwide.

2014-18 **MEng Electrical & Electronic Engineering (1st Class)** at Imperial College London

[3] "Comper: A Collaborative Musical Accompaniment System using Deep Latent Vector Models." 2018.
***Jun Shern Chan**, Yiannis Demiris*

My undergraduate thesis uses deep latent vector models to learn good representations of musical content; sampling from this space enables controllable music generation and accompaniment. My work was awarded the *Student Centenary Prize* (awarded to one student in each graduating class "for an outstanding undergraduate project").

Other Experience

2021 **Prize Winner** at MineRL BASALT (NeurIPS 2021 Competition)

[4] "Retrospective on the 2021 BASALT Competition on Learning from Human Feedback." NeurIPS 2021.
*Rohin Shah, Steven H. Wang, Cody Wild, Stephanie Milani, Anssi Kanervisto, Vinicius G. Goecks, Nicholas Waytowich, David Watkins-Valls, Bharat Prakash, Edmund Mills, Divyansh Garg, Alexander Fries, Alexandra Souly, **Chan Jun Shern**, Daniel del Castillo, Tom Lieberum.*

My team participated in this competition training RL agents to perform complex tasks without a reward signal. Our team used a mix of behavior cloning with RL from human feedback; I designed our approach and architecture, built the feedback interface and trained the preference reward model. Our team won *3rd place* and the *Most Creative Research* prize.

2020-21 **Writing**

Paper Reading Group	I distill AI research publications into 10-slide summaries. (>1k followers)
Spinning Up in Deep RL	Blog post detailing my experience implementing key RL algorithms.
What is AI For Good?	I write a layman's survey of AI applications for social good.

2021 **Participant** at Effective Altruism Cambridge's AGI Safety Fundamentals course

2020 **Deep Reinforcement Learning Nanodegree** at Udacity
Deep RL course with implementations of DQN, DDPG and MADDPG in PyTorch. [Course Info]

Community & Teaching

2018 **Google Summer of Code participant** at Processing Foundation
Contributed to p5.js, culminating in the explorable web tutorial "Algorithmic Music Composition". [Write-up]

2018 **Founder & Instructor** at Creative Coding for Beginners
Developed a curriculum with p5.js and taught beginner coding workshops in Kuala Lumpur. [Blog post]

2018 **Instructor** at Fire Tech
Taught Python, Scratch, and Arduino at after-school clubs and holiday camps in London.