Tianzhe Chu

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Education

- **ShanghaiTech University** — Shanghai,China
  3rd year undergraduate in Computer Science and Technology;GPA:3.71/4.0;Rank:24/177 — *Sep 2020 - Jun 2024*
  Courses: Introduction to Machine Learning, Probability and Statistics, Computer Architecture I, Data Structure and Algorithms,etc.
- **UC Berkeley** — Berkeley, CA
  GLOBE Program, now taking CS 182 Deep Learning, CS 188 Intro. to AI, CS 285 Deep RL — *Aug 2022-May 2023*
- **Suzhou High School** — Suzhou,China
  Devoting to Physics Competition — *Sep 2017 - July 2020*

Skills Summary

- **Languages**: C, C++, Python, LaTeX, RISC-V
- **Tools**: Pytorch, Matlab, Linux, git, Jax
- **Maths**: Calculus(Mathematical Analysis), Linear Algebra, Probability and Statistics, Machine Learning

Lab Experience

- **BAIR in UC Berkeley, advised by Prof. Yi Ma** — Berkeley, CA, US
  Undergraduate research assistant — *Nov 2022-Now*
  - **Research**: Something interesting
- **NeuralPets group, VRVC Lab in ShanghaiTech, advised by seniors** — Shanghai, China
  Undergraduate research/development assistant — *Feb 2022 - Jun 2022*
  - **Paper review**: I reviewed serveral papers, understood their pipeline and ran their source codes in the area of model reconstruction and Neural Rendering e.g. SMAL series from MPI. After that, I mainly worked on the reseach group's own papers and products.
  - **Demo development**: I mainly focused on finding solution to classify the posture of the input video and finally, working with a Unity developer, achieved a virtual animal demo which can respond to human's posture.
  - **Web page development**: I designed and implemented the web page for the research group, though it haven't been put into use.

Projects

- **Transformer's application in Inverse Reinforcement Learning in Deep RL**: An attempt to explore whether Transformer is effective in learning reward functions.
- **ViT-Jax in Deep Learning**: A homework-style implementation of ViT using Jax, together with autograder and written problems
- **Series of Pac-man Projects in Intro. to AI**: Using search algorithms and basic reinforcement learning algorithms to implement pac-man agents.
- **Leaf Classification in Intro. to ML**: All the paper writing work and most of the code implementation work using CNN like ResNeXt, CSP-Darknet and SEResNeXt. I made comparison between traditional machine learning methods like SVM, Random forests and CNNs and tried to optimize the work.
- **Chrome T-Rex Game on Logan Nano Board in Comp. Arch. I**: All the programming work using RISC-V and part of the programming work using C.
- **Digit Recognition in Intro. to Information Science and Technology**: Part of the paper writing work and code implementation work using python on Raspberry Pi.
- **Python Spider for Anime Pictures**: A trivial individual project.

Activities

- **Leader of a Social Practice Group**: I led a group of 30 focusing on social investigation and rural revitalization in Enshi, Hubei Province, China. (July 2021)
- **Member of a Industrial Practice Group**: I joined a industrial practice group, visited and investigated 2 companies in the area of medical instruments. The group mainly focused on their software design and function.(July 2022)
- **Keyboard Player in a Student Band**: Playing the keyboard, as well as the piano.(Feb 2021 - Jun 2022)