Yuetian Chen

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Education

- **Rensselaer Polytechnic Institute** — NY, United States
  Bachelor of Computer Science; GPA: 3.8 — *July 2020 -*

  Courses: *ML and Optimization, Intro to Deep Learning, Intro to Data Mathematics, Computational Optimization, Rensselaer Center for Open Source, Application Prog Using Java, Operating Systems, Intro to Algorithm, Principle of Software, Foundations Of Computer Sci, Data Structures, Biostatistics, etc*

Skills Summary

- **Languages**: Python, Java, C++, C, MIPS, LaTeX, R, Verilog
- **Frameworks**: Pytorch, TensorFlow, Keras
- **Tools**: Matlab, Matplotlib, numpy, pandas, sklearn

Publications

- **Conference Paper: Automated Visual Story Synthesis with Character Trait Control** : Yuetian Chen, Ruohua Li, Bowen Shi, Peiru Liu, and Mei Si, AHFE 2023; (UNDER REVIEW)
- **Conference Paper: Visual Story Generation Based on Emotional and Keyword Scheme** : Yuetian Chen, Ruohua Li, Bowen Shi, Peiru Liu, and Mei Si, AAAI - AIIDE - INT 2022; arxiv.org/abs/2301.02777
- **Conference Paper: Automated Cell Recognition Using Single-cell RNA sequencing with Machine Learning** : Chengqi Xu, Yuetian Chen, Yiyang Cao, ICCBB '21 conference; doi.org/10.1145/3512452.3512455
- **Conference Paper: A review of self-encoding language models for bidirectional representation)**: Yuetian Chen, Proc. SPIE 11911, 2nd International Conference on Computer Vision, Image, and Deep Learning, 119110O (5 October 2021); doi.org/10.1117/12.2604536

Academic Experience: Research and Instruction

- **RPI - Mei Si - Common Sense Based Story and Dialogue Generation** — Present
  Research Assistant (Part-time) — *March. 2022 - Present*
  - **Objective**: Explored the limits of story generation tasks with Professor Mei Si of Rensselaer Polytechnic Institute in natural language processing and optimized generation logic with prompting learning.
  - **Project Goals**: Build an end-to-end model for story generation tasks under a visual story-telling domain based on the story cloze dataset.
  - **Outcome**: Introduce a novel visual story generation pipeline showing that stories generated by introducing named entities as prompts have a higher degree of grammatical and logical consistency.

- **Undergraduate Mentor/Assistant Program** — Present
  Head TA (Part-time) — *Jan. 2023 - Present*
  - **CSCI 2600 - Principle of Software - Sping 2023**:
    - **Objective**: Managed a team of 17 TAs and collaborated with the instructor to deliver effective teaching and support to students in a 4-credit course with 346 students.
    - **Responsibilities**: Conducted weekly meetings, assisted students, graded assignments and exams, contributed to course materials development, and participated in faculty meetings to promote best collaboration experience.

  Mentor (Part-time) — *Jun. 2021 - Jan. 2023*
  - **CSCI 2500 - Computer Organization - Fall 2022**:
    - **Objective**: Acted as a mentor to students, imparting knowledge on fundamental computer organization and guiding them through the concepts of MIPS assembly language and digital logic, including gates and Boolean algebra. Provided personalized attention and support to enhance their understanding and technical skills.
  - **CSCI 2600 - Principle of Software - Summer 2022**:
    - **Objective**: Guided a group of students as a mentor, teaching critical software design, implementation, and testing concepts, including specification, class abstraction, design principles, and Java-based patterns. Provided individualized support and encouragement to help students master these important topics.
  - **COGS 2140 - Introduction to Logic - Fall 2022**:
    - **Objective**: Served as a mentor to students, introducing them to first-order logic as a useful tool in fields such as engineering, computer science, and philosophy, as well as its application in puzzle-solving environments like standardized tests. Led hands-on laboratory sessions to reinforce learning and deepen understanding.

Projects

- **Visual Story Generation Based on Emotional and Keyword Scheme - Web deployment**: Developed an innovative end-to-end framework that fosters interactive narrative experiences through keyword control and image generation. Tech: flask, JavaScript, Electron (December '22)
- **Introduction to Machine Learning - "Our Body" Project (Machine Learning, Neural Networks, Classification Tasks)**: (instructed by Prof. Ziv Bar-Joseph) Spearheaded pre-processing and classification of 20,499-dimensional sc-RNA data, introducing innovative dimension reduction operations for improved accuracy and efficiency. Expertise in data analysis and commitment to quality led to successful completion of complex task, contributing to project success. Tech: Python, Matplotlib, Huawei Cloud, TensorFlow, Pandas (August 21)
- **Peking University - Speech and text processing topics (NLP, BERT Language Model, Voice Recognition Task)**: (Instructed by Associate Prof. Lei Wang) Delivered a comprehensive presentation on the current state of language model development, including an in-depth exploration of BERT-based models and their practical applications in various industries. Tech: Python, Tensorboard. (March 21)
- **University of California, Berkeley - Computer Graphics and 3D Modeling (Cell Shading, Image Processing, Stylized rendering)**: (instructed by Prof. Brian A. Barsky) Analyzed and classified the elements of the cartoon rendering pipeline based on subjective styles for scenes rendered in real time (e.g., mobile games). Tech: Unity (September '20)
- **CIS Summer - Machine Learning in Genomics(Deep Learning, Computational Biology, Keras)**: (instructed by Prof. Manolis Kellis) Explored interdisciplinary applications of artificial intelligence with Professor Manolis Kellis of MIT & completed a project on identifying breast cancer using deep learning. Tech: Python, Pandas, Keras (August 19)

Extracurricular Activities

- **English tutoring at Jinhua Qiming Primary School for Children with Disabilities** Zhejiang, China
  Head Volunteer *Jan 2019 - Dec 2020*
  - **Objective**: Provide English instruction to teenagers with disabilities and to positively impact their lives by helping them develop their language skills.
  - **Impact**: Successfully influenced the lives of over 300 teenagers with disabilities by volunteering as an English instructor. Designed and executed engaging lessons, fostering the students' language skills through hands-on activities and personalized attention. Proud to have made a positive difference in the students' futures, leaving a lasting impact on their education and career prospects.
- **Video producing, Stream channel maintenance** Remote
  Video editor/Bilibili.com (Part-time) *Oct. 2018 - Present*
  - **Video channel - realJohnson**: Introduced the basics of computer science (e.g. object-oriented programming) to the general public in the context of classical operating systems in the early years. Utilize *Adobe After Effects* and *Cinema 4D* to achieve an effective audio-visual experience.
  - **Video channel - KaleidoscopeSub**: Localized translation channel for videos related to technology news. Proficiency in the pipeline of subtitle group operations from translation and editing to rendering and publishing.
  - **Impact**: The channels have received over 350,000 views and influenced many younger generations interested in the field of computer science.

Honors and Awards

- Rensselaer Polytechnic Institute Dean's Honor List - Fall 2020, Spring 2021, Spring 2022
- Rensselaer Polytechnic Institute Academic Recognition Letter - issued by Charles V. Stewart - Spring 2022
- Rensselaer Polytechnic Institute Academic Recognition Letter - issued by Mohammed J. Zaki - Summer 2022