Pengfei Zhang

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LinkedIn Profile

EDUCATION

Year	Degree	Institute	GPA
2022 -	PHD student in Computer Science	University of California, Irvine (UCI)	4.0/4.0
2017 - 2021	B.Eng in Computer Science	University of Science and Technology of China (USTC)	3.45/4.3

PUBLICATIONS

RESEARCH INTERESTS: Artificial Intelligence, Computer Vision, Bioinformatics and Computational Biology, Database

- **Conferences**
  1. **Pengfei Zhang**, Zhengyuan Jiang, Yixuan Wang, Yu Li#. **CLMB: deep contrastive learning for robust metagenomic binning.** *RECOMB 2022 (oral)*
- **Journals**
  1. Dongjing Miao#, **Pengfei Zhang**, Jianzhong Li, Ye Wang, Zhipeng Cai#. **Approximation and Inapproximability Results on Computing Optimal Repairs.** *VLDB Journal (2022)*
- **Preprints**
  1. **Pengfei Zhang**, Deying Kong. **Handformer2T: A Lightweight Regression-based model for Interacting Hands Pose Estimation from a single RGB Image** *Submitted to WACV 2024*

(* denotes equal contribution, # denotes corresponding)

INTERNSHIPS AND WORK EXPERIENCE

- **Teaching Assistant**
  - In UCI: Teaching Assistant and Reader for *Design and Analysis of Algorithms (CS161)*, *Discrete Mathematics (ICS6D)*, and *Project in Computer Vision(CS117)* *(Sep. 2022 - Jun 2023)*
  - In USTC: Teaching Assistant for *Inorganic and Analytical Chemistry* *(Sep. 2019 - Jan. 2019)*
- **Research Intern in Chinese University of Hong Kong (CUHK) for Artificial Intelligence and Bioinformatics Research** *(2021 - 2022)*
  - Contrastive learning algorithm development and implementation for metagenomic binning
  - Performance evaluation and data analysis using Python and R, and experiment design such as visualization, ablation study, ensemble binning, and applications on real-world datasets.

SOFTWARE AND PROGRAMMING PROJECTS

- **CLMB for the CUHK intern project and publication *Conference 1*** *Feb. 2021 - Sep. 2022*
  - A deep Contrastive Learning framework for Metagenome Binning (CLMB) proposed to improve the metagenomic binning step and recover better metagenomes, which can efficiently eliminate the disturbance of noise and produce more stable and robust results.
  - Implemented on pytorch in python.
- **Optimal Repairs Computation for Databases for publication *Journal 1*** *Oct. 2019 - Apr. 2022*
  - Proved a tighter inapproximability bound for computing subset repairs and proved the NP-hardness of computing update repairs in representative cases.
  - Created an algorithm for computing optimal update repairs that has a time complexity of $O(n^2)$ and a lower approximation ratio than previous algorithms
  - Ran experiments on databases of real data to assess the performance and efficacy of proposed algorithms on computing subset and update repairs, respectively.
- **Banking Management System in the course *An Introduction to Database System*** *May. 2020 - Jun. 2020*

  - A mini banking system for accounts, clients and property management.
  - Implemented on html5+css+javascript, flask in python, jinja2, and mysql.
- **MiniCourse in the course *Principles and Techniques of Compiling*** *Mar. 2020 - Sep. 2020*
  - A course management program created for colleges to arrange students, teachers, and courses.
  - Implemented on vue, django in python, axios, and mysql, in collaboration with nine classmates.

TECHNICAL SKILLS

- Languages. Chinese (Native), English (Proficient, PASS UCI English TOEP Test), Japanese (Amateur).
- Skills. I master popular computer skills, such as Python, R, C++, Verilog, Web Frontend Technologies, etc.

EXTRA CURRICULAR ACTIVITIES AND ACHIEVEMENTS

- **Activities and Volunteering**
  - Unity Through Service: Weeding in Harvest Solutions Farm Volunteer *(2023)*
  - MLK Jr. Day of Service: Supplies packing in OC Food Bank *(2023)*
  - Undergraduate Entrepreneurship Service: Hosting USTC venue *(2021)*
  - 60th anniversary of USTC: Referee of the alumni bridge league *(2018)*
  - Science and Technology Public Week in USTC: Tour guide *(2017)*
- **Honors and Awards**
  - Dean's award from UCI *(2022-2023)*
  - National Encouragement Scholarship (top 20%) from USTC *(2020)*
  - National Encouragement Scholarship (top 20%) from USTC *(2018)*
  - Bronze Prize of Outstanding Freshmen Scholarship from USTC *(2017)*