Shijie Zeng

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College of Computer Science Chengdu University
https://firesaku.github.io/

RESEARCH INTERESTS

Machine Learning, **Computer Vision**, **Bioinformatics**

EDUCATION

Major: Software Engineering Sep 2019 - Jun 2023

Overall GPA: **87.83**/100

Ranking: **1**/397 (Overall)

Highlighted Courses: Java Web Programming (97/100), Python programming(96/100), C Language Programming (96/100), Object-Oriented Programming (96/100), IT New Technology(94/100), WEB Front End Development Technology(91/100), Computer Network (91/100), **Linear Algebra** (91/100), **Probability and Statistics**(91/100), **Numerical calculation method**(92/100)

RESEARCH EXPERIENCE

Computer Vision (Semantic Segmentation) Jun 2021 - Jun 2022

- Song H, Wang Y, **Zeng S**, et al. **OAU-net: Outlined Attention U-net for biomedical image segmentation**[J]. Biomedical Signal Processing and Control, 2023, 79: 104038. **(Q1 Impact Factor: 5.076)**

Machine Learning (Unsupervised Learning) Jun 2020 - Present

- As the **first author** completed the paper ' **A Dyeing Clustering Algorithm based on Ant Colony Path-finding** ', which is currently under review. As I proposed an ant colony clustering method based on the dyeing idea, the algorithm can capture the inner relationship between points and points, without the need for specific clusters number in advance, and can be applied to a variety of distributed data sets, which achieves higher accuracy. This paper is currently under view, but our code can be found at: https://github.com/firesaku/DCACP
- As the **second author** completed the paper ' **An outlier detection strategy for spatial free path-finding based on hierarchical ant colony** ', which is currently under review, but our related code can be found at: https://github.com/firesaku/ODPHAC
- As the **third author** completed the paper ' **Let the Points Move: An Outlier Detection Algorithm based on Points Displacement Analysis for Statically Distributed Data** ', which is currently under review, but our related code can be found at: https://github.com/YF-W/ODDD

Bioinformatics Sep 2021 - Present

- **Zeng S**, Wang Y, Yang Y. **A Novel Prognosis Model based on Comprehensive Analysis of Pyroptosis-Related Genes in Breast Cancer**[J]. bioRxiv, 2022. In this paper, I proposed a novel prognosis model for breast cancer, analysing pyroptosis-related genes by machine learning methods.
- As the **second author** completed the paper ' **Identification and Modeling of Necroptosis-Related Genes Associated with the Prognosis of Breast Cancer** ', which is currently under review.

HONORS & AWARDS

The 2nd Prize of Contemporary Undergraduate Mathematical Contest in Modeling (National&Award rate less than 2.66%) Nov 2020

The 1st Prize of The National Professional Software Engineering "Blue Bridge Cup" Design Contest Sichuan Province. Sep 2020

Outstanding Innovative Talents special scholarship (Top 1% student) Jun 2019 - Sep 2020

Outstanding Innovative Talents special scholarship (Top 1% student) Jun 2020 - Sep 2021

Outstanding Innovative Talents special scholarship (Top 1% student) Jun 2021 - Sep 2022

First-class scholarship of Computer Science College (Top 2% student) Jun 2019 - Sep 2020

First-class scholarship of Computer Science College (Top 2% student) Jun 2021 - Sep 2022

LEADERSHIP EXPERIENCE

Ginkgo Academic Association Jan 2020 - Jun 2021

Founder & President

- Established an academic organization with the main idea of "science and technology, innovation, and competition". More than **20 courses** and **40 academic discussions** were held. More than **300 students** participated in relevant activities.
- The organization now has more than **80 members**.

National Training Program of Innovation and Entrepreneurship for Undergraduates Jun 2020 - Sep 2021

Team Leader

- This is an electronic seal project combined with blockchain, which solves the problem of traditional seals being stolen and imitatively engraved.
- The team had 8 people and won a fund of more than 10,000￥.

SKILLS

- **Programming Languages:** Python, R, Java, Matlab, C
- **Packages:** Pytorch, Tensorflow, Numpy, Pandas, GGPlot2
- **Others:** LATEX, Markdown, GitHub, GitLab