SIMON LUO

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EDUCATION

South China Agricultural University(SCAU) *09/2020 - 06/2024*
Bachelor of Science in Biological Sciences ***GPA**: 92.03/100*
***Relevant Courses**: Biochemistry(97.3), Molecular Biology(99), Bioinformatics(96.8), Cell Biology(89), Genetics(87.5), Genetic Engineering(85.5), Animal Physiology(92), Organic Chemistry(98), Inorganic and Analytical Chemistry(92.3), Advanced Mathematics(82.4), Probability Theory and Mathematical Statistics(92.6)*

EXPERIENCE

Research Assistant, Guangdong Academy of Agricultural Sciences *Sep 2023-Apr 2024*
I previously worked as a research assistant in Dr. Dan Wang's team, where our research focused on investigating the regulatory mechanisms underlying sugar accumulation in mulberries. To support this goal, I took charge of quantifying sugar content in mature fruits—specifically selecting samples from 150 mulberry varieties with diverse genetic backgrounds—using high-performance liquid chromatography (HPLC), ensuring precise and reliable primary data for our studies. Additionally, I processed and analyzed these HPLC-derived datasets using Python (e.g., pandas for data cleaning, NumPy for statistical calculations, and matplotlib for result visualization). These analyses not only validated the accuracy of the quantified sugar content but also generated clear, interpretable data patterns, which laid a critical foundation for identifying key regulatory factors in mulberry sugar accumulation.
In addition, I integrated sugar content data with transcriptome and genome datasets, performing correlation and co-expression analyses to identify candidate genes potentially involved in sugar accumulation. This work involved applying bioinformatics tools such as BLAST and Cytoscape to analyze gene sequences and visualize gene interaction networks.

Research Assistant, SCAU College of Life Sciences *Dec 2022-Sep 2023*
I worked as a research assistant under the supervision of Dr. Shaoyan Zheng, focusing on the response of a transcription factor to high temperatures in Oryza sativa. My primary responsibilities included designing primers and optimizing PCR protocols, such as qPCR and RT-PCR, to amplify target gene fragments with high specificity. I also performed molecular biology techniques like gel electrophoresis, DNA extraction, and cloning to confirm gene expression and functionality.
In addition to laboratory work, I conducted detailed observations and measurements of rice phenotypes under controlled high-temperature conditions, ensuring accurate data collection. Using statistical software such as SPSS, I analyzed experimental data through methods like ANOVA and regression analysis. I also created clear and professional visualizations of the results using Origin, which helped effectively communicate findings within the research team.

Gap Year Study *July 2024-June 2025*
After graduation, I dedicated one year to strengthening my English proficiency while launching self-directed studies in Computer Science, an area I've long been interested in. Starting with systematic learning of core fundamentals, I took a comprehensive study of calculus, linear algebra, probability and statistics through online courses and textbooks. I then progressed to Deep Learning, using some famous resources like the textbook *Deep Learning from Scratch* and complementing this with specialized online courses to deepen my understanding, hoping for a position in the field of biology where I can contribute to data-driven research and discovery.

SKILLS

Languages
Python, LaTeX, Markdown, YAML, HTML/CSS

Frameworks
Numpy, Pandas, Pytorch, Sklearn, Matplotlib, Scipy
Tools
Git, Vim, Docker, Kubernetes, Anaconda

AWARDS AND SCHOLARSHIPS

Academic Scholarships , SCAU College of Life Sciences *2022-2023*
Academic Scholarships , SCAU College of Life Sciences *2020-2021*