

EDUCATION

- **University of Nebraska - Lincoln** Lincoln, NE
Ph.D. in Computer Science, GPA: 3.896 Aug. 2016 - Dec. 2021 (expected)
 - **Research Field:** Computer Vision, Image Processing, Machine Learning, Data Mining
 - **Related Courses:** Data Structure / Algorithm Design, Parallel Programming, Pattern Recognition
- **University of Science and Technology of China** Hefei, China
M.S. in Computational Mathematics Sept. 2009 - Jun. 2012
- **AnHui University** Hefei, China
B.S. in Computational Mathematics, GPA: 3.62 Sept. 2005 - Jun. 2009

EXPERIENCE

- **University of Nebraska - Lincoln** Lincoln, NE
Research Assistant Aug. 2016 - Present
 - Headed the design and implementation of an end-to-end solution to plant traits extraction problems using imaging processing and computer vision algorithms
 - * Closely cooperated with plant scientists and mechanical experts in customized design with rapid iteration
 - * Developed imaging processing algorithms to extract traits from millions of images up to 30 TB
 - * Deployed computer vision algorithms to achieve precise representation of plants in 3D space
 - * Created a web-based tool visualize and analyze the 3D structure and historical traits of plants
 - Designed and deployed algorithms and online applications to solve scientific problems in cancer research
 - * Implemented algorithms to identify patterns with statistical significance using cancer gene data
 - * Built an interactive website for users to utilize the algorithms above
 - Utilized: Python, Matlab, HTML, JavaScript, Git, C/C++
- **E-commerce China Dangdang Inc. (dangdang.com)** Beijing, China
Full-time Software Developing Engineer Jul. 2012 - Aug. 2014
 - Led a team to prevent fraud by implementing machine learning algorithms on user purchasing records
 - * Collected data and extracted traits from 30 million purchasing records using Hadoop
 - * Implemented Logistic Regression models for fraud prediction
 - * Optimized the accuracy of the generated model and detected up to 90% of fraud
 - Developed machine learning algorithms to improve product recommendation
 - * Implemented Logistic Regression models on clicking data from 7 million users
 - * Utilized A/B testing for evaluation and increased CTR(click-through-rate) by 20%
 - Designed software documentation and collaborated document writing/review
 - Collaborated monthly code review as a reviewer/reviewee actively
 - Won Best New Programmer Prize, 2012
 - Utilized: Python, HTML, SVN, Hadoop, SQL

SELECTED RESEARCH ARTICLES

- T.Gao, J.Sun, F.Zhu, et al., *Plant Event Detection from Time-Varying Point Clouds.*, Big Data, 2019
- J.Sandhu, F.Zhu, P.Paul, T.Gao, et al., *PI-Plat: a high-resolution image-based 3D reconstruction method to estimate growth dynamics of rice inflorescence traits*, Plant Methods, 2019
- T.Gao J.Shu, J.Cui, *A systematic approach to RNA-associated motif discovery*, BMC genomics, 2018

SKILLS

- Programming
 - **Expert:** Python, MATLAB, Linux Shell
 - **Advanced/intermediate:** JavaScript, HTML, C/C++, Java, SQL, Lua, R
- Tools: Latex, Hadoop, NumPy, SciPy, Git, SVN, Vim, Docker, Excel, PyCharm, vscode, markdown