Tian Gao

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Education

- **University of Nebraska - Lincoln** — Lincoln, NE
  Ph.D. in Computer Science, GPA: 3.896 — *Aug. 2016 - May. 2022 (expected)*
  - **Research Field**: Machine Learning, Deep Learning, Computer Vision, Image Processing
  - **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 application of deep learning and computer vision algorithms on plant-related research problems
    - Led the cooperation with plant scientists and mechanical experts in designing and building customized image acquirement devices
    - Designed and implemented deep learning algorithms for seeds classification using 3D CNN
    - Developed imaging processing algorithms for plant traits extraction from images
    - Managed the storage of millions of images up to 30 TB in size
  - Utilized: Python, Matlab, NN, CNN, HTML, JavaScript
- **E-commerce China Dangdang Inc. (dangdang.com)** — Beijing, China
  Machine Learning Engineer — *Jul. 2012 - Aug. 2014*
  - Led the development of machine learning algorithms to prevent fraud
    - Collected data and extracted traits from 30 million purchasing records using Hadoop
    - Implemented Logistic Regression for fraud detection
    - Optimized the performance of the generated model and achieved high accuracy
  - 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

- *HyperSeed: An End-to-End Method to Process Hyperspectral Images of Seeds based on Convolutional Neural Networks*, In Progress, 2021
- *Interactive Visualization of Hyperspectral Images based on Neural Networks*, IEEE Computer Graphics and Applications (CG&A), 2021
- *PI-Plat: A High-Resolution Image based 3D Reconstruction Method to Estimate Growth Dynamics Of Rice Inflorescence Traits*, Plant Methods, 2019
- *Plant Event Detection from Time-Varying Point Clouds.*, Big Data, 2019

Skills

- Programming
  - **Expert**: Python (NumPy, Pandas, Matplotlib, PyTorch), MATLAB, Linux Shell
  - **Advanced/intermediate**: JavaScript, HTML, SQL
- Tools: Jupyter Notebooks, Latex, Git, Vim, Docker, Hadoop, Markdown