

Yuan Liu (First, Last)

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Google Scholar: <https://scholar.google.com/citations?user=IwNdFkoAAAAJ&hl=en>

EDUCATION

North Dakota State University, Fargo, ND, USA

Ph.D., Computer Science, Sep.2016- Present, GPA: 4.0

North Dakota State University, Fargo, ND, USA

M.S., Applied Statistics, Sep 2020 –Present, GPA: 3.86

North Dakota State University, Fargo, ND, USA

M.S., Plant Sciences, Sep.2015 –May 2020, GPA: 3.85

Michigan State University, East Lansing, MI, USA

B.S., Crop and Soil Science, Sep.2013- Jun.2015, GPA: 3.72

Beijing Forestry University, Beijing, China

B.S., Turfgrass Management, Sep.2010- Jun.2015, GPA: 3.23

Beijing Forestry University, Beijing, China

Minor, Accounting, Sep 2011- Jun 2013

EXPERIENCES

Student Intern

*Center for Computationally Assisted Science and Technology,
North Dakota State University, Fargo, ND, USA, Sep.2020- Present*

Graduate Teaching Assistant

North Dakota State University, Fargo, ND, USA, Sep.2020- Present

Graduate Research Assistant

North Dakota State University, Fargo, ND, USA, Sep.2015- Jun. 2020

Undergraduate Research Assistant

Beijing Forestry University, Beijing, China, Sep.2012- May.2013

Lab Assistant

China Research Academy of Environmental Sciences, Beijing, Jun.2012- Aug.2012

TEACHING

CSCI 859 Computational Methods in Bioinformatics

*Teaching assistant, Fall 2020
Department of Computer Science, North Dakota State University
Give support for students and track students' progress*

PLSC 721 Genomics Techniques

*Guest instructor, Spring 2020
Department of Plant Sciences, North Dakota State University
Design and teach one section about molecular marker development and Kompetitive Allele Specific PCR (KASP) marker design*

HORNROS & AWARDS

Doctoral Dissertation Fellowship (one of top fellowships in NDSU)

North Dakota State University, 2020

Charles and Linda Moses Presidential Graduate Fellowship

North Dakota State University, 2019

Glenn S. Smith International Graduate Fellowship

North Dakota State University, 2017

Charles and Linda Moses Presidential Graduate Fellowship

North Dakota State University, 2016

The Second Prize of the Outstanding Student in Academy

Beijing Forestry University, 2011

UNIVERSITY SERVICE

Student Mentor

Fall 2018, North Dakota State University

Responsibility: welcome new graduate students and assist them to adapt to graduate life

President

Student Psychological Association, 2012-Jun 2013, Beijing Forestry University

SKILLS

Programming Languages: Python, R, Java, C

Comfortably working in Linux environment and high-performance computing systems

Familiar and experienced in Machine Learning and Deep Learning models

Familiar and experienced in Next-Generation Sequencing (NGS) scheme

Genome-Wide SNP calling from Sequencing-based Genotyping method

Genetic dissection of complex trait (Genome-Wide Association Study and QTL mapping)

RNA-Seq Analysis

SELECTED COURSES

Computer Science	Statistics	Biology
Advanced Data Mining	Generalized Linear Model	Gene Expression Analysis
Algorithm Analysis	Computational Statistics	Intermediate Genetics
Computational Methods in Bioinfor.	Bayesian Statistics	Plant Molecular Genetics
Artificial Intelligence	Statistical Machine Learning	Experimental Design
Advanced Intelligent System	Multivariate Methods	Soil Physics
Cloud Computing	SAS Programming	Soil Biology

PUBLICATIONS (until 2020)

Liu, Y., and Yan, C. (2020). A novel spatial feature for predicting lysine malonylation sites using machine learning. Accepted in IEEE International Conference on Bioinformatics and Biomedicine (BIBM) 2020.

Liu, Y., and Yan, C. (2020). Guided-assembly reveals the relationship between SARS-CoV-2 and Pangolin CoV. Accepted in International Conference on Biomedical Engineering and Biotechnology (ICBEB) 2020 and recommended to Journal of Bioinformatics and Computational Biology (under review).

Liu, Y., Salsman, E., Wang, R., Galagedara, N., Zhang, Q., Fiedler, J.D., Liu, Z., Xu, S., Faris, J.D. and Li, X., 2020. Meta-QTL analysis of tan spot resistance in wheat. *Theoretical and Applied genetics*, 133, pp.2363-2375.

- Marais, G.F., Fiedler, J., Tao, H., Pirseyedi, S., Hegstad, J., Ganaparthi, V., **Liu, Y.**, Bisek, B. and Li, X., Homoeology of Thinopyrum distichum Single Chromosome Additions in Triticale and Wheat. *Crop Science*, In press
- Salsman, E., **Liu, Y.**, Hosseinirad, S., Manthey, F., Elias, E., and Li, X. Assessment of genetic diversity and agronomic traits of durum wheat germplasm under drought environment of Northern Great Plains. *Crop Science*, In press
- Liu, Y.**, Zhang, Q., Salsman, E., Fiedler, J.D., Hegstad, J.B., Liu, Z., Faris, J.D., Xu, S.S. and Li, X., 2020. QTL mapping of resistance to tan spot induced by race 2 of *Pyrenophora tritici-repentis* in tetraploid wheat. *Theoretical and Applied Genetics*, 133(2), pp.433-442.
- Qi, L., Talukder, Z., Underwood, W., Misar, C.G., Seiler, G.J., **Liu, Y.**, Li, X., and Cai, X. Unraveling the Sclerotinia Basal Stalk Rot Resistance Derived from Wild Helianthus argophyllus Using a High-Density SNP Linkage Map. *Frontiers in plant science*, In press
- Galagedara, N., **Liu, Y.**, Fiedler, J., Shi, G., Chiao, S., Xu, S.S., Faris, J.D., Li, X. and Liu, Z., 2020. Genome-wide association mapping of tan spot resistance in a worldwide collection of durum wheat. *Theoretical and Applied Genetics*, pp.1-11.
- Liu, Y.**, Ma, Y., Salsman, E., Manthey, F.A., Elias, E.M., Li, X. and Yan, C., 2019. An enrichment method for mapping ambiguous reads to the reference genome for NGS analysis. *Journal of Bioinformatics and Computational Biology*, 17(06), p.1940012.
- Liu, Y.**, Salsman, E., Fiedler, J., Hegstad, J., Green, A., Mergoum, M., Zhong, S. and Li, X., 2019. Genetic mapping and prediction analysis of FHB resistance in a hard red spring wheat breeding population. *Frontiers in plant science*, 10, p.1007.
- Fiedler, J.D., Salsman, E., **Liu, Y.**, Michalak de Jiménez, M., Hegstad, J.B., Chen, B., Manthey, F.A., Chao, S., Xu, S., Elias, E.M. and Li, X., 2017. Genome-wide association and prediction of grain and semolina quality traits in durum wheat breeding populations. *The plant genome*, 10(3), pp.1-12.

PRESENTATIONS

Oral Presentations

- Liu, Y.**, and Yan, C. A novel spatial feature for predicting lysine malonylation sites using machine learning. IEEE International Conference on Bioinformatics and Biomedicine, BIBM 2020, Virtually online (originally scheduled to be held in Seoul, South Korea)

Poster Presentations

- Liu, Y.**, Fiedler, J., Hegstad, J., Zhang, Q., Liu, Z., Xu, S.S., and Li, X. Genetic Dissection of Tan Spot Resistance in Tetraploid Wheat. Agricultural Bioscience International Conference (ABIC), 2016, Fargo, ND.