Xuehai Zhou

McGill University
Department of Bioresource Engineering
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Research Interests

Artificial Intelligence in Agriculture; Plant Phenotyping; Radiometric Imaging; Sensor Fusion

Education

McGill University — **Montreal, QC**
Ph.D. Student in Bioresource Engineering — Expected: December 2027
Advisor: Prof. Shangpeng Sun
Committee Member: Prof. Pierre Dutilleul

McGill University — **Montreal, QC**
M.Sc. in Bioresource Engineering — December 2023
Advisor: Prof. Shangpeng Sun
Committee Member: Prof. Mark Lefsrud

University of Oregon — **Eugene, OR**
B.Sc. in Computer Science — June 2021

Wuhan Textile University — **Wuhan, China**
B.Sc. in Civil Engineering — Withdrawn

Appointments

Graduate Researcher — **Dec. 2022 – Present**
Department of Bioresource Engineering — McGill University

Research Assistant — **May 2021 – Oct. 2022**
Baidu Research — Beijing, China

Tutor — **Mar. 2020 - Mar. 2021**
Department of Computer Science — University of Oregon

Paper Marker — **Mar. 2019 – Mar. 2020**
Department of Mathematics — University of Oregon

Publications

Journal

3. **Xuehai Zhou**, Yuyang Zhang, Xintong Jiang, Kashif Riaz, Phil Rosenbaum, Mark Lefsrud, Shangpeng Sun. *"Advancing tracking-by-detection with MultiMap: Towards occlusion-resilient online multiclass strawberry counting."* Expert Systems with Applications, 255, 124587, 2024.

2. Rui Kang, Jiaxin Huang, **Xuehai Zhou**, Ni Ren, Shangpeng Sun. *"Toward real scenery: A lightweight tomato growth inspection algorithm for leaf disease detection and fruit counting."* Plant Phenomics, 6, 0174, 2024.

1. Ji Liu, **Xuehai Zhou**, Lei Mo, Shilei Ji, Yuan Liao, Zheng Li, Qin Gu, and Dejing Dou. *"Distributed and deep vertical federated learning with big data."* Concurrency and Computation: Practice and Experience, e7697, 2023.

Conference

2. **Xuehai Zhou**, Leshang Bai, Rui Xu, Rui Kang, Davoud Torkamaneh, Shangpeng Sun. *"3D segmentation within the root system architecture using Point Transformer."* ASABE Annual International Meeting, 2024.

1. **Xuehai Zhou**, Yuyang Zhang, Shangpeng Sun, Phil Rosenbaum. *"A dynamic object counting method for strawberry fruits using vision transformer networks and Kalman filter tracking."* ASABE Annual International Meeting, 2023.

Academic Honors

Student Paper Award **2023**
Association of Overseas Chinese Agricultural, Biological, and Food Engineers

ITSC Paper Award **2023**
American Society of Agricultural and Biological Engineers

Dean's List **2018**
University of Oregon

Presentations

ASABE Annual International Meeting, 2024 **Oral Lightning**
Title: *3D segmentation within the root system architecture* Anaheim, California

ASABE Annual International Meeting, 2023 **Oral Presentation**
Title: *A dynamic object counting method for strawberry fruits* Omaha, Nebraska