

# Zhonghao Zhang

(C) 709-219-3550 | [zhonghaoz@uvic.ca](mailto:zhonghaoz@uvic.ca) | Victoria, BC V8N 2B4

## SUMMARY

I am a PhD candidate from the University of Victoria (major in mechanical engineering). I am deeply engaged in research focused on scale-related issues in low impact development (LID). My passion lies in understanding how to upscale LID practices from small-scale implementations to larger contexts. I am particularly intrigued by the quantification of uncertainty in the upscaling process, such as utilizing fuzzy inferencing methods or Shannon entropy theory. My career goal is to contribute towards sustainable development goals by seeking viable solutions in the face of future climate change.

## SKILLS

- LID modelling/ GCM modelling
- MS Office
- Spatial data gathering and analysis
- GIS mapping
- PCSWMM/MATLAB
- Fuzzy inferencing/ Risk analysis

## EDUCATION

### PhD Degree

Major in Mechanical Engineering, University of Victoria, Victoria, BC, Canada

September 2021 to now

- Thesis: Scaling Nature based solution (low impact development) for stormwater management and quantifying uncertainty in changing climates
- 8.25/9.00 GPA

### Master's Degree

Master of Applied Science, Memorial University, St. John's, NL, Canada

September 2019 to February 2021

- Major in Safety and Risk Engineering
- 3.80/4.00 GPA
- Ranked in the Top 10% of the class.
- Thesis: Safety Assessment and Leakage & Evacuation Simulation in Chlor-alkali Plant
- Best project recipient

### Bachelor of Science

Geographic Information Science, Central South University of Forestry and Technology, Changsha, Hunan Province, China

September 2013 to September 2017

- Major in Geographic Information System
- Thesis: Application of Geographic Information Science in Urban Planning
- Excellent graduation thesis recipient
- Completed coursework in spatial analysis, programming languages and the Oracle database

## WORKING EXPERIENCE

### 1. Research assistant, University of Victoria, Victoria, BC

Sep 2021 to now

- Conduct literature reviews and assist in research project planning.
- Collect and analyze data using various research methodologies.
- Assist in designing experiments, surveys, or interviews.
- Maintain accurate records of research findings and data.
- Assist in writing research reports, papers, or presentations.
- Collaborate with other researchers or team members on projects.
- Perform statistical analysis or data interpretation.
- Stay updated on relevant research developments in the field.
- Attend research meetings and contribute to discussions.
- Provide support in organizing and managing research materials

### 2. Teaching Assistant, University of Victoria, Victoria, BC

Jan 2022 to now

- Assist the instructor in preparing course materials and syllabi.
- Conduct tutorials, discussions, or lab sessions for students.
- Provide individual or group assistance to students with course content.
- Grade assignments, exams, or other student assessments.
- Hold office hours to provide additional support and address student questions.
- Monitor student progress and provide feedback on assignments.
- Assist in developing and updating course materials

### 3. Waiter, Sushi Island, St'Johns, NL

Jan 2021 to Jun 2021

- Greeting and seating customers.
- Presenting menus and providing recommendations on food and beverages.
- Taking customer orders accurately and efficiently.
- Serving food and beverages to customers in a timely manner.
- Monitoring and attending to customer needs during their dining experience.
- Ensuring the cleanliness and organization of tables, dining areas, and service stations.
- Handling payment transactions and issuing receipts.
- Collaborating with kitchen and bar staff to ensure accurate order preparation.
- Resolving customer complaints or concerns, escalating to a supervisor if necessary.

### 4. CommunityServiceVolunteer, FroudeAvenueCommunityCentre, St. John's, NL May

2019 to August 2019

- Kept the facilities organized, clean and well-maintained to best meet program needs
- Cooked and prepared healthy snacks and meals for children
- Communicated with students' parents and summarized the children's performance.
- Organized outdoor activities for children.

Implementation Engineer, Changsha Chapt Technology co., Ltd, Changsha, Hunan July 2015 to September 2015

- Analyzed systems and compiled system change needs, as requested by clients
- Designed a road maintenance interface using a variety of GIS interface design tools
- Used the Oracle database for data management and analysis

Director of Organization Department, Military Fan Association, Central South University of Forestry and Technology September 2014 to September 2015

- Organized students to carry out spare-time activities and developed activity plans
- Planed various large school activities

## **PUBLICATION**

JP1: Zhang, Z., & Valeo, C. (2022). Verification of PCSWMM's LID processes and their scalability over time and space. *Frontiers in Water*, 4. <https://doi.org/10.3389/frwa.2022.1058883>

JP2: Zhang, Z., & Valeo, C. (2023). Low Impact Development Technologies for Mitigating Climate Change Impacts: Review and Direction. *National Science Open* (in Review)

CP1: Zhang, Z., & Valeo, C. (2022, April 25-28). Potential for Nature-Based Solutions to Mitigate Impacts of Climate Change [Conference paper]. 3rd International Conference on New Horizons in Green Civil Engineering, Victoria, BC, Canada.

CP2: Zhang, Z., & Valeo, C. (2022, June 5-8). Potential in Nature-Based Solutions for Mitigating Impacts of Climate Change [Conference poster]. CWRA 2022 National Conference: Valuing Shared Waters, Canmore, AB, Canada.

CP3: Zhang, Z., & Valeo, C. (2022, October 21-23). Assessing optimal LID areas for flood mitigation: A case study on Vancouver Island, Canada [Conference paper]. 2022 13th International Conference on Environmental Science and Technology, Qingdao, Shandong, China.

CA1: Zhang, Z. & Valeo, C. (2023, June 18-21). Determining LID Performance for Mitigating Flooding under a Changing Climate [Conference abstract]. CWRA 2023 National Conferencing with the Tide: Working Together to Address Water Resource Challenges, Halifax, Canada.

CA2: Zhang, Z. & Valeo, C. (2023, August 7-11). Scaling Up Low-Impact Development in Urban Water Modelling [Conference abstract]. PEOPLE 2023 – Collaborative Solutions to Environmental Problems under Climate Change, Montreal, Canada.

CA3: Zhang, Z. & Valeo, C. (2023, October 2-4). Upscaling Low-Impact Development for Urban Stormwater Management: Addressing Climate Change Challenges [Conference abstract]. CWRA BC Branch Conference 2023: Transitioning to Resilience: Responding to Climate Change in BC, Vancouver, BC, Canada.

## **AWARD**

- Best Project Certificate

Won the "Best Project" award for a two-semester graduation project from March 2020 to September 2020 at MUN

- Community Service Certificate (excellent volunteer work)

More than 20 hours of volunteer service in community centers and outstanding completion of volunteer work between May 2019 and August 2019 in St. John's