

Xuyang Han

Graduate Research and Teaching Assistant
at York University

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Summary

I am a Master's student at York University. Currently, I am serving as a Research Assistant conducting projects on Geospatial Data Analysis and Data Mining. I am interested in obtaining a full-time position after the expected graduation date.

Personal Website Link: xuyanghan.github.io

Work experience

Graduate Research Assistant

2018 - Present

York University

- **Research Project One:** Crowd-Sourced Bathymetry in the Northern Canada Areas
 - Development of a Geospatial Web Portal for Collaborative Bathymetry Visual Analytics
 - Development of a Crowdsourced Bathymetric Data Management Platform
- **Research Project Two:** Improve Marine Trajectory Clustering and Anomaly Detection
 - Innovate DBSCAN Clustering Method by introducing new vector definition
 - Optimize Partition-and-Group by applying deep learning process to auto-adjust cluster radius

Graduate Teaching Assistant

2018 - Present

York University

- Demonstrating the lab materials, leading the discussion and helping students to understand complex materials.
- Courses include: Physics Labs, Natural Science courses

Undergraduate Honor Research Assistant

2017 - 2017

The Ohio State University

- Photogrammetry and Remote Sensing
- Improve 3D reconstruction using Least Squares Image Matching and Geometric Priors for Dense Matching
- Received Honors Research Distinction

Undergraduate Teaching Assistant (Grader)

2017 - 2017

The Ohio State University

- Serving as a grader of Civil Engineering 2060, Numerical Method
- Grading students' MATLAB coding and assignments, topics including roots of equations, matrix algebra, integration, differential equations and curve fitting.

Education

Master of Science, Geomatics

2018 - Present

York University

- Research Project One: Crowd-Sourced Bathymetry in the Northern Canada Areas
- Research Project Two: Improve Marine Trajectory Clustering and Anomaly Detection
- Serving as Teaching Assistant
- Participate Esri App Challenge
- Won Gold Price on AOLS Graduate Poster Competition
- Attend Esri User Conference at Toronto

Bachelor of Science, Environmental Engineering

2014 - 2017

The Ohio State University

- Graduated with Honors Research Distinction and Cum Laude
- Received Undergraduate Research Scholarship
- Complete Research Thesis
- The research results were presented in the Fall Research Forum and submitted to ASPRS conference

Chemical Engineering

2014 - 2014

I-Shou University

- Exchange Student

Environmental Engineering

2012 - 2014

The Northeastern University (CN)

- B-Class Academic Scholarship

Skills

Languages

Python, R, JAVA, Matlab, SQL, Front-end Programming


Databases

SQL, MongoDB, Oracle

Applications

Tableau, Rgretl, MS Visual Studio, Excel, Google Fusion Tables, Hadoop, Apache Spark, ArcGIS, QGIS

Math

Statistics, Linear Algebra and Calculus, Machine Learning, Deep Learning and AI

Projects and Activities

GIS and Advanced Spatial Analysis Project

2019 - 2019

York University

- Generate Residential Solar Panel Recommendation Map for City of Airdrie
- Used multiple GIS Technologies to generate an evaluation model
- Applied Multiple-criteria decision analysis (MCDM) Methods

Esri App Challenge

2019 - 2019

Esri Canada

- Full-Stack App Development using Esri products within a week
- Carpool Sharing App based on ArcGIS Online Map and Geospatial Database
- Front-end development using JavaScript API and Bulma libraries
- Provide well-constructed documents describing the mission and comprehensive instructions

AOLS Graduate Poster Competition

2019 - 2019

Association of Ontario Land Surveyors (AOLS)

- Win First Prize at Graduate Student Poster Competition at Association of Ontario Land Surveyors (AOLS)
- Assessed by a committee composed of judges from the geomatics industry and academia.

Full Stack Developing of CrimeSolutions Platform

2018 - 2018

York University

- Apply Crowd-Sourcing concept on designing a Web-based crime reporting platform.
- Full-Stack Development using Django framework

Climate Change Data Analysis

2017 - 2017

The Ohio State University

- Used MATLAB and Excel to analyze climate trend in North Pole
- Generated prediction of how polar bear will be influenced by climate change

Environmental Engineering Volunteer

2017 - 2017

Community Engineering Corps

- Assisted Village of Grover Hill to be compliance with NPDES permit by evaluating wastewater system
- Assisted in generating a wastewater system map applying GIS surveying
- Conducted septic tanks and CleanOuts inspections

Advanced Energy Vehicle (AEV) Design

2014 - 2015

The Ohio State University

- Wrote MATLAB codes to give commands
- Tested and adjusted the design to maximize the vehicle's energy efficiency

Courses Accomplishment

Data Analytics and Visualization

2019 - 2019

York University

EECS 6414

GIS and Advanced Spatial Analysis

2019 - 2019

York University

ESS 5400

Geo-spatial Data Management

2018 - 2018

York University

ESS 5010

Deep Learning Specialization

2019 - 2019

Coursera - deeplearning.ai

- Neural Networks and Deep Learning
- Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization
- Structuring Machine Learning Projects
- Convolutional Neural Networks
- Sequence Models
- [link to see credential](#)

Data Science A-Z™: Real-Life Data Science Exercises Included

2019 - 2020

Udemy

- Data Visualization using Tableau
- Data Modeling using Rgretl
- Data Preparation using Visual Studio and SQL
- Data Communication
- [link to see credential](#)

Data Science in Python Specialization

2019 - 2020

Coursera - University of Michigan

- Introduction to Data Science in Python
- Applied Plotting, Charting & Data Representation in Python
- Machine Learning in Python
- [link to see credential](#)

JavaScript Algorithms and Data Structures Certification

2019 - 2019

freeCodeCamp

[link to see credential](#)

Interactive Python Dashboards with Plotly and Dash

2018 - 2019

Udemy

[link to see credential](#)

Algorithmic Toolbox

2017 - 2017

Coursera

[link to see credential](#)

Measurement and Modeling of Climate Change

2017 - 2017

The Ohio State University

EnvEng 5218