

AUSM LAB York University · Lassonde School of Engineering

POSTDOCTORAL OPPORTUNITIES

Postdoctoral fellows

AI world models for cities, Earth and space
Toronto, Canada



Urban World Models

Graph models that understand and predict robots and mobility in cities



Scan-to-Model

Infrastructure models with engineering knowledge, built from scans



Embodied Autonomy

Robots, drones and cars that sense, map and act in real time



Physics-Informed Earth AI

AI guided by physics that emulates Earth systems



Space Situational Awareness

Space in the loop: detecting and tracking objects in orbit

Start

Flexible (2026–2027)

Applications

Reviewed on a rolling basis

Email your **CV, research statement and 2–3 papers** to gsohn@yorku.ca
Subject: **[Postdoc] Your Name**

ausmlab.com/join

POSTDOCTORAL OPPORTUNITIES

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Applications reviewed on a rolling basis · Start: Flexible (2026–2027)

Build AI world models that understand and predict cities, infrastructure, the Earth and near-Earth space. Lead a research thrust, mentor graduate students and work directly with industry and government partners.

ABOUT THE LAB

The AUSM Lab at York University develops embodied spatial intelligence: AI systems that perceive, reason about and act within physical space. Our work spans urban mobility and robotics, infrastructure digital twins, autonomous mapping, and AI for Earth and space.

We are looking for postdoctoral fellows to lead one of five research thrusts. You will work at the centre of a team of Ph.D. and M.Sc. students, and with industry and government partners such as Teledyne Optech, Aethon Aerial Solutions and the Ontario Ministry of Transportation.

RESEARCH THRUSTS

- **Urban World Models**
Graph models that understand and predict robots and mobility in cities
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WE OFFER

- Funding through NSERC Discovery, NSERC CREATE SMART and industry partners
- Support to apply for the Canada Postdoctoral Research Award (CPRA) and Mitacs Accelerate fellowships
- Experience leading industry projects and mentoring graduate students
- A GPU computing cluster and real-world data from industry partners

YOUR ROLE

- Lead a research thrust, from problem definition to publication
- Publish in top venues (CVPR, ICCV, ECCV, ISPRS, IEEE TGRS)
- Co-supervise Ph.D. and M.Sc. students day to day
- Run industry projects and meet with partners
- Help write grant and fellowship proposals

WHO WE LOOK FOR

- A Ph.D. (completed or near completion) in computer vision, machine learning, robotics, photogrammetry and remote sensing, geomatics, or a related field.
- A strong publication record in leading venues (e.g., CVPR, ICCV, ECCV, ISPRS, IEEE TGRS).
- Hands-on experience with deep learning (Python, PyTorch) and 3D or spatial data.

HOW TO APPLY

Email **Prof. Gunho Sohn**, gsohn@yorku.ca with:

- Your CV with a full publication list
- A research statement (up to two pages)
- Two or three representative publications
- Names and contact details of three referees

Subject line: **[Postdoc] Your Name**

FUNDING

Positions are funded through the lab's research grants and industry partners. We also encourage strong candidates to apply with us for external fellowships, such as the Canada Postdoctoral Research Award (CPRA) and Mitacs Accelerate, and we support the application.