

LOUIS SUNGWOO CHO

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EDUCATION

University of Illinois at Urbana-Champaign, Grainger College of Engineering	August 2020 – May 2025
M.S. with Thesis in Civil Engineering (Transportation)	GPA: 3.46/4.00
B.S. Honors in Civil Engineering (Transportation), Minor in Computer Science	GPA: 3.55/4.00

TRANSPORTATION RESEARCH EXPERIENCES

Graduate Assistant: Smart City Laboratory at UIUC	July 2024 – May 2025
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- Calibrated control spacing models for autonomous vehicles using a genetic algorithm to optimize performance across various traffic scenarios, and demonstrated that parameters must adapt dynamically to ensure stability.
- Deployed planning and control algorithms on a physical autonomous vehicle using ROS; analyzed real-time vehicle dynamics at Illinois Center for Transportation to validate trajectory tracking control responsiveness.
- Conducted comparative behavioral analysis using the Phoenix Robotaxi Open Dataset to identify discrepancies in lane-change and car-following behaviors between human and autonomous drivers.

Undergraduate Assistant: Smart City Laboratory at UIUC	May 2023 – May 2024
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- Experimented a trajectory re-identification pipeline incorporating convolutional social pooling to improve vehicle detection accuracy in low-visibility scenarios.

Undergraduate Assistant: Reliable Autonomy Group at UIUC	May 2022 – August 2022
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- Co-developed a simulation platform (AutoVerse-AI) for control verification of autonomous vehicles, ensuring controller safety and performance under edge-case scenarios. [Code link]

EXTRACURRICULAR ACTIVITIES

President: Institute of Transportation Engineers UIUC Chapter (ITE@UIUC)	August 2022 – May 2024
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- Lead professional development events by coordinating seminars and panel discussions with industry leaders in CAVs and ITS; increased student participation by 60 % and built partnerships with national ITE chapters.
- Directed a transit analytics project leveraging machine learning to assess bus ridership trends; identified capacity gaps and presented results at UIUC Engineering Open House, earning a Top 3 Award out of 200+ projects.
- Advocated for diversity in STEM as the ITE@UIUC representative to the Engineering Council, supporting K–12 robotics outreach and organizing major networking events with UIUC engineering leadership.

AWARDS AND RECOGNITIONS

Charles E. DeLeuw Scholarship	March 2025
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The Charles E. DeLeuw Scholarship was endowed in 1970 by Mr. DeLeuw, founder of DeLeuw, Cather and Company, to enable an outstanding civil engineering student to inspect urban transit systems in foreign countries.

UIUC EOH 2024 Outstanding Exhibit Award 3rd Place	April 2024
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ITE@UIUC was awarded the “Outstanding Exhibit Award” in 3rd place for demonstrating high-speed rails, Maglev, eVTOL, unmanned aerial vehicles (UAV), bus rapid transit (BRT), and data visualization using AI for time-series forecasting on public transit planning at the UIUC Engineering Open House.

Grant W. Shaw Memorial Scholarship	March 2023
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Scholarship award for students demonstrating the best leadership in Traffic Engineering awarded by faculty members in the Transportation area of the Department of Civil and Environmental Engineering at the University of Illinois at Urbana-Champaign and the Schaumburg Chapter of the Illinois Association of Highway Engineers.

SKILLS

Programming Languages: Python, Java, C++, HTML, CSS, JavaScript, ReactJS

Tools: Git, ROS, Docker, LaTeX, Microsoft Excel, Word, PowerPoint, HCS, AutoCAD, Revit

Languages: English, Korean