LOUIS SUNGWOO CHO

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EDUCATION

University of Illinois at Urbana Champaign, Grainger College of Engineering **August 2020 - May 2024 (Expected)**
B.S in Civil & Environmental Engineering (Transportation), **Minor** in Computer Science **GPA: 3.54/4.00**
Relevant Coursework: Public Transportation Systems; Traffic Capacity Analysis; Transportation Engineering; Applied Machine Learning; Algorithms & Models of Computation; Data Structures; Numerical Methods in Python; Introduction to CS and Programming in Java and C++; Discrete Mathematics; Database Systems; Systems Engineering and Economics; Statics; Dynamics; Solid Mechanics; Fluid Mechanics; Structural Engineering; Construction Management; Civil Engineering Materials; Water Resources Engineering; Engineering Design in Revit; Project-Based Civil Engineering; Linear Algebra with Computational Methods; Probability and Statistics; Differential Equations; Multivariable Calculus; Physics; Chemistry

EXPERIENCES

Undergraduate Research Assistant: Smart City Laboratory at UIUC **May 2023 – Present**

- Doing research in Multi-agent Deep Reinforcement Learning and GPT based Framework for Traffic Shaping with Professor Alireza Talebpour, Department of Civil & Environmental Engineering (Transportation) at UIUC.
- In charge of designing an algorithm for finite state-to-state transitions using GPT and MDP methodologies

Undergraduate Researcher: Human-Centered Autonomy Laboratory at UIUC **January 2023 – May 2023**

- Contributed to developing an End-to-End Autonomous Driving Model using TransFuser model with Professor Katherine Driggs-Campbell, Department of Electrical & Computer Engineering at UIUC.
- Utilized various Computer Vision and RL techniques to optimize TransFuser Neural Networks for the Autonomous Driving model.

Research Assistant: Reliable Autonomy Group at UIUC **May 2022 – August 2022**

- Collaborated with Professor Sayan Mitra, Department of Electrical & Computer Engineering at UIUC for Verse Generator Simulation Research for Control Verification
- Created a data visualizing function to draw the road attributes inside the ASAM OpenDRIVE files using Python.
- Generated multiple lanes from the file parser into the control verification simulators.

EXTRACURRICULAR ACTIVITIES

President: Institute of Transportation Engineers UIUC Chapter (ITE@UIUC) **August 2022 – Present**

- Connecting students and networking with transportation professionals by hosting conferences, seminars and field trips.
- Built the website for ITE@UIUC (https://ite.cee.illinois.edu/).
- Mentoring students who are Civil and Environmental Engineering (Transportation) Majors, Computer Science Majors and Minors.
- In charge of leading the ITE@UIUC exhibitions at the UIUC Engineering Open House (EOH).

AWARDS AND RECOGNITIONS:

Grant W. Shaw Memorial Scholarship **March 2023**
Scholarship award for students demonstrating the best leadership in traffic engineering awarded by faculty members in the transportation area of the civil engineering department at the University of Illinois at Urbana-Champaign, and the Schaumburg Chapter of the Illinois Association of Highway Engineers.

Dean's List **May 2022**
The Dean's List is given to honor full-time students whose grade-point average (GPA) for that semester ranks in the upper 20 percent of their college every semester.

SKILLS:

Programming Languages: Python, Java, C++, HTML, CSS, JavaScript, ReactJS, MySQL, MongoDB, NodeJS, Neo4j, MATLAB
Tools: Git, LaTeX, Microsoft Excel, Word, PowerPoint, AutoCAD, Revit
Languages: English, Korean