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 and Environmental Engineering (Specialization: Transportation Engineering) **GPA: 3.61/4.00**
- **Minor** in Computer Science (Focus Area: Artificial Intelligence and Big Data)
- **Relevant Coursework:** Public Transportation Systems; Traffic Capacity Analysis; Transportation Engineering; Applied Machine Learning; Algorithms and 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; Probability and Statistics; Differential Equations; Multivariable Calculus; Physics; Chemistry

EXPERIENCES

Undergraduate Researcher **January 2023 – Present**

Human-Centered Autonomy Laboratory at UIUC

- Assisting Professor Katherine Driggs-Campbell, Department of Electrical and Computer Engineering at UIUC.
- Currently working on Individual Policy Generation Deep Reinforcement Learning Algorithm for CARLA Simulators

President **August 2022 – Present**

Institute of Transportation Engineers (ITE) UIUC Chapter

- Currently in charge of organizing and hosting transportation conferences and seminars.
- Connecting prospective students and networking with transportation professionals.
- Contributed to building the website for ITE UIUC Chapter.

Research Assistant **May 2022 – August 2022**

Reliable Autonomy Group at UIUC

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

Head Planner **March 2022- May 2022**

- Contributed to Amtrak Train Scheduling Helper Project
- Planned the shortest rail path for passenger trains in the given rail network.
- Main communicator in charge of project management and progress report.
- Designed and analyzed graph algorithms for path optimization.
- Assisted with implementing dynamic programming for optimizing the rail network for trains using C++.

Main Programmer **March 2022- May 2022**

- Contributed to Structural Design and Analysis of a Truss Bridge.
- Lead programming tasks for structural analysis using MATLAB and SAP 2000.
- In charge of communicating with team members to monitor and address the progress of tasks.
- Mathematically analyzed a truss bridge system to determine the strength required for each truss members.

SKILLS:

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

AWARDS AND RECOGNITIONS:

Grant W. Shaw Memorial Scholarship, issued by the Department of Civil and Environmental Engineering, UIUC **March 2023**