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: 3.72/4.00**
- Minor in Computer Science
- **Relevant Coursework:** Transportation Engineering; Introduction to CS and Programming in Java and C++; Discrete Mathematics; Data Structures; Numerical Methods; Systems Engineering and Economics; Statics; Dynamics; Solid Mechanics; Fluid Mechanics; Structural Engineering; Engineering Design in Revit; Project-Based Civil Engineering; Linear Algebra; Probability and Statistics; Differential Equations; Multivariable Calculus; Physics; Chemistry

EXPERIENCES

Head Planner in Amtrak Rail Network   **March 2022- May 2022**
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**
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

Rocket Designer   **Oct 2021 – Dec 2021**
Bottle Rocket Design
- Designed a bottled rocket using the fluid dynamics principles
- Performed extensive literature review of the bottle rockets and theoretical analysis of the proposed rocket design
- Published online to present the final design, analysis, reflection, and ABET goals of the bottle rocket project

Dam Designer   **Aug 2021 – Oct 2021**
Big Bags USA vs. Sandbags: Design of a Rapidly Deployable Flood Barrier System
- Conducted research on finding optimal solutions for fast flood protection system
- Analyzed the design and the economic feasibility of the systems using the Big Bags USA and the traditional sandbags
- Compared the advantages and disadvantages between the use of sandbags and Big Bags system

Urban Planner   **Jan 2021 - May 2021**
Town Design Project in Urban Planning
- Designed a new house for a software engineering client using Autodesk Revit
- Allocated team members' houses in certain locations of the town
- Initiated additional urban components such as streetlights, roads, hills, playground, etc. for the town's final design
- Main communicator responsible for monitoring and reporting project progress to the instructors

Mathematical Modeler   **Sep 2020 - Dec 2020**
Feasibility of Improving Bicycle Infrastructure Safety
- Analyzed reliable data from government and town officials about major bicycle-related accidents near UIUC
- Investigated case studies of cities that have successfully improved bicycle traffic safety
- Conducted traffic trends analysis to predict the increase of bicycle users near the campus using a linear regression model

SKILLS:

Programming Languages: C++, Python, Java, HTML, CSS, JavaScript, React, Nodejs, MATLAB, R
Tools: Git, Microsoft Excel, Microsoft Word, Microsoft PowerPoint, AutoCAD, Revit
Languages: English, Korean