

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

Research Assistant May 2022 – Present

UIUC Department of Electrical and Computer Engineering

DryVR++ Autonomous Driving Map

- Assisting generating a map for autonomous driving track using Open Drive ASAM platform
- Creating algorithms to parse HTML files from Open Drive ASAM to Python for track visualization

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

SKILLS:

Programming Languages: C++, Python, Java, HTML, CSS, JavaScript, React, MATLAB, R

Tools: Git, Microsoft Excel, Microsoft Word, Microsoft PowerPoint, AutoCAD, Revit

Languages: English, Korean