Smust Nipitkultong, EIT

n.smust@gmail.com 4012 78th St. Elmhurst, NY 11373 (929) 229-9883

Work and Research Experiences

The Harman Group New York, NY
Design Engineer July 2021 – Present

- Designed and analyzed concrete, steel, and timber structural components such as bearing walls, columns, flat plates, beams, and foundations for new building, retrofit, and investigation projects based on local NYC, NJ, and PA building codes
- Modified Revit models according to architects' revisions
- Reviewed timber, masonry, steel, and concrete shop drawings and replied to RFIs.
- Developed programs for design automation and internal documents in the office using Excel VBA and Mathcad

Civil and Environmental Engineering Department at Arizona State University Tempe, AZ
Research Assistant Summer 2019 – Present

- Performed micro-indentation experiment on glass and cement specimens and wrote MATLAB codes to determine their fracture toughness
- Designed and performed experiments to increase tensile strength of cement by adding polypropylene into the cement mix
- Developed VBA programs to do most calculations within research group

Laufs Engineering Design Long Island City, NY
Structural Engineering Intern Summer 2020

- Designed, analyzed, and checked calculations for cladding fasteners based on AAMA TIR-A9-14
- Modeled and analyzed structures using RFEM
- Used Mathcad to code multiple programs and calculation sheets to produce design parameters

School of Computing, Informatics, and Decision Systems Engineering at Arizona State University Tempe, AZ
Teaching Assistant Spring 2020

- Probability and Statistics for Engineering Problem Solving is about applying probability and statistics theory to solve engineering issue
- Graded assignments, quizzes, projects, and exams
- Encouraged students on critical thinking and problem-solving skills to tackle problems on homework, projects, quizzes, and exams

Architecture Department at California Polytechnic State University San Luis Obispo, CA
Project Structural Analyst Fall 2019 – Spring 2020

- Analyzed light-weight shell structure and sculpture using Grasshopper and Karamba under multiple failure types and load cases
- Designed support foundation for the sculpture to resist overturning moment

Skills

Technical: Structural Analysis, Finite Element Analysis, Reinforced Concrete Design, Prestressed Concrete Design, Steel Design, Timber Design, Gravity and Lateral Load Design, Structural Dynamics, Seismic Design, Structural Optimization

Structural Analysis and Design Software: RAM Structural System(Advanced), SAP 2000(Intermediate), ETABS(Intermediate), RAM Concept(Advanced), RAM Elements(Intermediate), RISA 3D(Beginner), RFEM(Advance), RAM SBeam(Advanced), IDEA StatiCa(Advanced), Karamba(Intermediate)

CAD/Modeling Software/Add on: AutoCAD(Advance), Revit(Advance), Rhino 3D(Intermediate), Grasshopper(Intermediate)

Office Program: Bluebeam Revu(Advanced), Mathcad(Advance), MS Word(Expert), MS Excel(Expert), MS PowerPoint(Advance)

Programming Language: VBA[Excel](Expert), MATLAB(Expert), Python(Intermediate), LabVIEW(Intermediate), C++(Beginner)

Volunteer Experience

Seattle Architecture Foundation Seattle, WA
Assistant Spring 2018 – Winter 2019

- Assisted in planning and designing exhibitions and events that took place at the Foundation office including but not limited to developing themes, creating presentations, and setting up space
- Coordinated, communicated, delivered, and assisted anything that comes out within the office

Personal Projects

Analysis and Design of Steel Components 2020-Present

- Developed an analysis and design steel components program using VBA and MATLAB
- Optimized design of various cross sections and shapes
- The program includes tension members, compression members, and flexure members.

Scheduled to take PE Exam on February 4th.

Smust Nipitkultong, EIT

n.smust@gmail.com 4012 78th St. Elmhurst, NY 11373 (929) 229-9883

Analysis and Design of Reinforced Concrete Components 2020-Present

- Developed an analysis and design reinforced concrete components program using VBA
- Optimized design of various cross sections, bars, and shapes with cross section and stress diagrams are the result of the program
- Selected design will output a calculation sheet in Mathcad
- Improving current reinforced concrete program to prestressed concrete program

Fragility Analysis: Capacity of Glass Cladding 2018

- Determined the capacity of PPG annealed glass, across the thickness range, and their probability of failure based on wind load analysis of the ASCE 7-16 at a height of 600 meters (~2000 ft)

Education

Arizona State University, Tempe, AZ Spring 2021

Bachelor of Science in Civil Engineering

Languages

English, Thai, Mandarin

Scheduled to take PE Exam on February 4th.