

Nicholas Valianti
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Summary

Industrious, persistent civil engineering sophomore with a well-rounded track record and demonstrated leadership and communication skills

Education

University of Massachusetts Amherst

Bachelors of Science in Civil Engineering, GPA: 3.3

Anticipated May 2024

Coursework

Intro to Civil and Environmental Engineering, Civil Engineering Measurements, Statics, Probability and Statistics in Engineering, Thermodynamics, Strength of Materials, Programming for engineers, Structural Analysis, Soil Mechanics, Elementary Fluid Mechanics, and Systems and Analysis in Engineering

Skills

AutoCAD, Matlab, SAP2000, Bluebeam, Microsoft Office, Excel, Total Stations, surveying tools

Relevant projects

Concrete mix and Testing in Strength of Materials lab

Spring 2022

- Worked with a group to develop a mix to withstand 5000 psi based upon fine and coarse aggregates which incorporated particle size, moisture content, and specific gravities
- Performed tests on the mix including slump tests, air entrainment, tensile and compressive stress
- Detailed our process and results in a written lab report

Intro to Civil Engineering project

Fall 2021

- Designed our building dimensions using CAD and rendered the building with SketchUp
- Performed energy calculations for solar and buildings energy use
- Calculated the fluid flow and the amount of water needed for the building
- Designed the foundations based on building loads and the type of soil it was built upon
- Presented the sustainability and energy results of our project in a slideshow in front of 90 other students

Surveying and Measurements

Spring 2021

- Measured elevation and surface features using total stations
- Used AutoCAD to create a topographic map of the data collected
- Expedited a report including project details and final map analysis

Thermodynamics project

Spring 2022

- Designed a house based on an energy balance to equal zero using excel
- Calculated the total heat ex; solar irradiance and other factors as well as total heat loss through the house
- Also designed the baseboards and amount of solar panels needed to have the necessary energy to heat the house
- Developed passive heating in window design and built into a hill so there was minimal heat loss from the north wall
- Wrote the analysis and conclusion portion of the project report

Leadership/Work experience

- Camp counselor at the Boys and girls club for 5 years in charge of large groups of kids orchestrating games and activities
- Captain of High School Track and XC team
- Cabin Coach at Foss Running Camp exchanging advice and knowledge with younger runners
- Accomplished musician and songwriter that plays gigs at restaurants and bars around the south shore

Activities and Interests

Balancing Division 1 cross country and Track with Engineering, Guitar, skiing, hiking