Zaven Cook

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Education

Clemson University Clemson, SC
B.S. Mechanical Engineering; Minor in Mathematical Sciences. GPA: 3.5 December 2020

Career Objective

Mechanical Engineer with over two years of experience seeking to combine their first principles understanding of thermal and fluid systems and strong problem solving skills with data manipulation and analytics.

Experience

EXP — San Francisco, CA
Mechanical Engineer I July 2022 – Present

- Worked in EXP's Science and Tech division to design HVAC systems
- Calculated building heat and cooling loads in Trace 700 and IESVE
- Selected appropriate equipment based on calculated loads
- Quickly learned the Revit API well enough to develop workflow-automating scripts

Dennis Group — Atlanta, GA
Mechanical Engineer I August 2021 – June 2022
Mechanical Co-Op August 2018 – July 2020

- Assisted in the design of various utility piping and mechanical systems of food and beverage production plants
- Determined situations in which energy/heat recovery systems could be implemented and showcased these situations using data visualizations
- Analyzed historical plant data sets to extract key indicators of future plant utility demands
- Coordinated with engineers of other disciplines to produce effective and timely designs
- Performed calculations and analysis to select appropriate equipment and determine structural loads
- Responsible for managing 7-8 other co-ops as "Head Co-op"

Skills & Certifications

Technical Skills:

Programming Languages: Python (including Pandas, NumPy, and Matplotlib), MATLAB, SQL
Software: Revit (including Revit API), Trace 700 and IESVE for building thermal analysis, Excel

Certifications:

E.I.T (Engineering in Training)

Personal Projects / Programming Experience

San Francisco Plum Finder

- Created a Python module that finds the closest plum tree to a given location in San Francisco
- Utilized Pandas to process San Francisco public tree data by adding missing values, removing obviously incorrect entries, and filtering to only include plum trees
- Designed an algorithm that uses SQL to query a database to determine the user's geolocation, approximate the closest tree using this geolocation, and then finally use Google Maps API to find the actual closest tree
- Incorporated Twilio API to allow usage of the application via text message

Working with Revit API (Building Design Software)

- Creation of scripts and components in Python that interface with Revit to increase productivity
- Contributed additional checks to PyrevitMEP (open source add-on) to reduce likelihood of errors and improve user experience