Clara Nelson

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SUMMARY

Entry-level programmer with experience in databases, data analysis, website development, and automation. Academic training in data structures and algorithms using C from Carnegie Mellon University. Other programming languages include Python, VBA, Javascript, and R.

PROFESSIONAL EXPERIENCE

ARUP Advanced Technology and Research Graduate Analyst   July 2019 – present
- Decreased runtime of existing data processing tool by about 5000x
- Analyzed weather data with Pandas in Python to determine design parameters
- Taught civil engineers basic Python and programming skills
- Modeled existing buildings and analyzed seismic behavior using finite element analysis

Carnegie Mellon Civil Engineering Department CEE Graduate Research Assistant   June – July 2018
- Measured floor structural vibrations and performed signal analysis using MATLAB

TranSystems Summer Intern   May – August 2017
- Pitched and created new Microsoft Access database using VBA and SQL
- Assessed internal and external user needs and customized UI for key use cases
- Trained another engineer for ongoing support of database after end of internship

Crown Castle Inc Construction Engineering Intern/Co-op   May – August 2016
- Developed new Microsoft Access database and streamlined existing databases using self-taught VBA

EDUCATION

Carnegie Mellon University Master of Science in Civil Engineering   May 2019
Focus Area: Advanced Infrastructure Systems
GPA: 4.0
Relevant Coursework: Data Structures and Algorithms (course 15-122), Data Mining and Machine Learning for Smart Structures, Data Analytics

Carnegie Mellon University Bachelor of Science in Civil Engineering   May 2018
GPA: 3.92
Minor: Philosophy
Relevant Coursework: Principles of Computing, Data Acquisition, Data Management, Python Prototyping and Web Development for Infrastructure, Building Controls and Diagnostics

ACADEMIC PROJECTS

Building Control System Prototype for Intelligent Building   Spring 2018
- Created static website about key building characteristics using Bootstrap template and HTML5
- Created mock building control system and GUI using Simulink and MATLAB

Task Manager Web App   Fall 2017
- Created tabular and Kanban task management web app using jQuery, HTML5, and CSS
- Linked interface to SQLite database using Django

LEADERSHIP EXPERIENCE

CMU Humanist League President   May 2017 – May 2018
- Organized speaker events, including all necessary logistics
- Led and managed exec board meetings and members

SKILLS

Languages: Python, Visual Basic for Applications (VBA), JavaScript, R, C, HTML5, CSS
Software: Tableau, MATLAB/Simulink, Mathcad