

# Clara Nelson

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## SUMMARY

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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

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**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
- 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

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**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

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**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

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**CMU Humanist League** President May 2017 – May 2018

- Organized speaker events, including all necessary logistics
- Led and managed exec board meetings and members

## SKILLS

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**Languages:** Python, Visual Basic for Applications (VBA), JavaScript, R, C, HTML5, CSS

**Software:** Tableau, MATLAB/Simulink, Mathcad