

Michael Manhard

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WORK EXPERIENCE

Calibrate Consulting, LLC | Freelance Software Engineer | Chicago, IL **February 2020 – Present**

- Implemented caching on the frontend of a React Native application to reduce loading times by over 30%.
- Created responsive animations that track user gestures and scale with various screen sizes of a React Native application.
- Communicated with a team of engineers located abroad to ensure software issues were resolved in a timely manner.

WSP USA | Design Engineer | Chicago, IL **January 2019 – January 2020**

- Managed the structural design for the rehabilitation of the Old Chicago Post Office, a 2.5 million square foot building with a construction budget of over \$800 million.
- Completed over 100 sketches for the repair of existing structure and the design of new building components at the Old Chicago Post Office. Designs included a rooftop park, redesigned lobby areas, and over 10 new elevators.
- Provided recommendations to the developer of the Old Chicago Post Office on opportunities to reduce structural costs. Recommendations included revisions to the framing strategy of a new escalator that resulted in a savings of over \$100,000.

Structural Designer **March 2017 – January 2019**

- Reduced overall concrete volume use at 210 N Carpenter in Chicago, IL by over 15% through optimization of the concrete slab geometry and post-tensioning reinforcement.

Commerce Evolution, LLC | Software Engineering Intern | Chicago, IL **June 2015 – August 2015**

- Collaborated with a small group of software engineers and designers to create Tally, an iOS application written in Swift that allows users to order and pay for drinks at crowded bars using their mobile phone.
- Integrated multiple libraries into the Swift application including a geolocation map that dynamically displays nearby bars.

EDUCATION

Stanford University | M.S. in Structural Engineering | GPA 3.95 / 4.0 **September 2015 – December 2016** **Relevant Coursework:** Machine Learning

Princeton University | B.S.E. in Civil Engineering | GPA 3.9 / 4.0 **September 2011 – June 2015** **Academic Honors:** Summa Cum Laude, George Mueller Engineer-Athlete Award, David Carmichael Thesis Prize, NJ ACI Civil Engineering Scholarship, Phi Beta Kappa, Sigma Xi, and Tau Beta Pi **Relevant Coursework:** Algorithms & Data Structures, Programming Systems, Functional Programming, Computing for the Physical and Social Sciences, Advanced Programming Techniques

SOFTWARE PROJECTS

Pain Control | Solo Project | *A React.JS app with Flask API to track and identify trends in user pain levels over time.*

- Developed a React web application with a React Redux store that uses local storage to enable persistent application state.
- Designed and built a database schema in MongoDB to support concurrent development of UI/UX and data resource needs.
- Implemented JWT-based authentication without the use of a third-party authentication framework.

Touché | Group Project – Solo Revision | *An iOS app that helps users find a local consensus for subjective debates.*

- Built a Swift application with a group of three other students that supports filtering by geolocation and anonymous posting.
- Overhauled the backend of the application, written in Python using Flask, to conform to RESTful API standards.

ACTIVITIES

ACE Mentor Program of America | Mentor **November 2017 – January 2020** - Mentored high school students interested in the fields of architecture, construction, and engineering.

WSP Developing Professional Network | Office Co-Leader **January 2018 – January 2020** - Increased engagement in WSP's career growth network by formation of a technical development committee.

Princeton Varsity Men's Diving **September 2011 – March 2015** - 1-Meter School Record Holder & 4-Time Academic All-American Honorable Mention

TECHNICAL SKILLS

Proficient: Python, Javascript, Java, Swift, Matlab, CSS, HTML, React, React Native, Flask, Git

Familiar: MongoDB, PostgreSQL, SQL, C, OCaml, Express, jQuery, Heroku, RESTful API Design