

Nicholas Orsi

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A **Full-Stack Software Engineer** with a passion for working on substantive problems as part of talented teams making positive impacts. Brings the portable skillsets of a practicing engineer, including problem solving, team collaboration, and fast learning, with the experience of developing quality solutions on large, challenging, dynamic, schedule driven projects.

TECHNICAL SKILLS

Languages - Javascript, Python, HTML, CSS, SQL, PostgreSQL, TypeScript

Frontend Technologies - React, JQuery, Bootstrap

Backend Technologies - Django, Flask, SQLAlchemy, Jinja, Node, Express, WTFORMS, Pillow

Testing/Development - Vitest, Jest, Jasmine, React Testing Library, Insomnia, Surge, Render, AWS S3

Workflow Tools - VSCode, Git, Github, Markdown, reStructuredText, Sphinx

SOFTWARE ENGINEER EXPERIENCE

Software Engineer Intern - Rithm School | San Francisco, CA (remote)

Feb 2024

Student Information System (SIS) - A learning management application written in Python utilizing Django as a web framework and consisting of +80,000 lines of code (LOC).

- Developed a Blog app incorporating Django MarkdownX to render Markdown input to HTML in real time while also providing drag and drop photo uploads, allowing instructors to efficiently create compelling blog posts.
- Created a secure Job Board app by utilizing pre-built and custom made Django authentication mixins to ensure only authorized users could view, edit, and post jobs.
- Accelerated personal code output from 30 LOC/week to 1,000 LOC/week while working with a new framework in a new and large codebase by analyzing the docs, compiling research for future use, and collaborating with peers.
- Seamlessly integrated new apps to SIS by following best coding practices such as documenting code, having +98% test coverage, pattern matching design and naming conventions, and respecting the existing code base.
- Demonstrated sound debugging practices by overcoming new Django flavored bugs, such as an issue related to out of sync migrations and a conflict between a many-to-many relation and a model mixin.
- Established professional workflow habits within an agile development environment, emphasizing effective communication during standup meetings and team lead interactions, performing atomic git commits, staying productive while awaiting feedback, and adhering to industry best practices when initiating pull requests.

Technical Projects

Saltly - *An image light table/editor app*

[Deployed Site](#) | [GitHub](#)

Technologies - Python, Flask, Flask WTFORMS, Pillow, Jinja, Bootstrap, AWS S3, Render, PostgreSQL, ElephantSQL

- Planned app scope and tech stack to ensure a MVP could be designed, built, and deployed within a week.
- Incorporated AWS S3 to save uploaded images in serverless storage, reducing db memory usage by 80%.
- Investigated Python based image editing libraries and chose Pillow to easily handle, edit, and save images.

Warbler - *A social media/messaging app*

[Deployed Site](#) | [GitHub](#)

Technologies - Python, Flask, Flask Bcrypt, Flask SQLAlchemy, Flask WTFORMS, Jinja, Render, PostgreSQL

- Strengthened site security using Flask Bcrypt to authenticate users against hashed versions of their passwords, and using Flask WTFORMS to prevent CSRF with CSRF token validation.
- Implemented a like message feature by leveraging Flask SQLAlchemy as an object-relational-mapper to create a Many-to-Many relation between a users model and a messages model.
- Resolved a unique bug preventing valid form submissions due to an invalid csrf_token.

Civil Engineering Work Experience

Lead Superintendent | Gross Reservoir Dam Expansion Project

Feb 2022 - June 2023

Kiewit Banard a Joint Venture West Co. NW District

Denver, CO

- Managed a team of 2 field engineers, 2 superintendents, and 15 craft to successfully excavate 270,000 CY of

rock and install 2,000 EA rock anchors for the new dam footprint with a budget of \$6M.

- Attained subject matter expertise for all managed work, requiring analysis and compilation of project, county, and federal specifications, as well as acquiring a blasting license in the state of CO.
- Utilized Sharepoint, Ineight, Smartsheet, and Procore to streamline documentation throughout construction planning and field execution to ensure consensus between stakeholders.
- Led weekly Microsoft Teams virtual meetings with senior client staff to present the construction execution plan, culminating in the approval of the earliest construction start date possible.
- Collaborated with internal technical support to develop a unique summary dashboard page using PowerBI to reduce quality documentation audit time by 67%.

Discipline Engineer/ Superintendent | SM 101 Freeway Expansion Project

Feb 2020 - Feb 2022

Kiewit Infrastructure West Co. NW District

Belmont, CA

- Led a team of 1 field engineer, 10 craft, and managed 5 subcontractors to excavate 150,000 CY of roadway & demo/replace 85,000LF of concrete barrier with a budget of \$10M.
- Developed quantity tracking sheets in Sharepoint to ensure accurate tracking between day and night shift operations, reducing the duration of month end audit meetings by 75%.
- Utilized Smartsheet to effectively manage utility dig permits across 50 working sites for day & night operations, resulting in 0 utility related safety incidents.

Field Engineer/ Superintendent | Oroville Emergency Spillway Repair Project

Feb 2017 - Feb 2020

Kiewit Infrastructure West Co. NW District

Oroville, CA

- Supervised a team of 1 field engineer, 10 craft, and managed 7 subcontractors to execute reconstruction of the main and emergency spillways, and the recreational facilities with a budget of \$17M.
- Improved field operation methods and procedures during the mid season planning phase, resulting in operation cost reductions of 30% under budget.
- Quickly adapted to managing 8 entirely new disciplines of work on a project with an aggressive schedule, risky operations, and national attention.

Field Engineer | Kam Highway Elevated Light Rail Project

Aug 2015 - Feb 2017

Kiewit Infrastructure West Co. NW District

Oahu, HI

- Conducted quality assurance documentation and testing to ensure concrete structures were installed correctly
- Learned how to use Hard Dollar estimating software and Bluebeam Revu for makes estimates in a weeks time

EDUCATION

Rithm School

March 2024

Full Stack Web Development Bootcamp

San Francisco, CA (remote)

Professional Civil Engineering License

June 2021

State Of Washington

University of Washington

June 2015

B.S. Degree in Civil Engineering, Magna Cum Laude

Seattle, WA