OLIVER BARBEAU

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WORK

Software Developer *Salesforce* *Remote Apr - August 2024*

- Solo software developer working with JavaScript and React.js to build custom gameful learning experiences on Forio's Epicenter simulation platform.
- Working on the Global Enablement - Innovation Team, making learning simulation experiences for ten-thousand sales professionals.

IT & Systems Manager/ Floor Manager *Centro Restaurant Group, Vivir, Popol Vuh* *Minneapolis MN 2018 - 2023*

- Sole IT/Systems and Support manager, including Data Analytics projects focused on menu pricing optimization.
- Established multiple service role details and functions from Popol Vuh and Centro restaurant location openings. Crafted the guidelines on training new staff, and following those guides trained 100+ employees through 4 location launches. Trained executives on how to train restaurant staff effectively.

Server *Oro by Nixta*

- Made the finalists list for award of Best New Restaurant by The James Beard Foundation in 2024.
- Featured in NYT's 50 Best Restaurants (US) 2024.
- Given 3000+ menu presentations that lead to 90% success in food item suggestions being purchased by the customer.

EDUCATION

Bachelor of Science, Computer Science *2023*

University of Minnesota-Twin Cities, College of Science and Engineering

Coursework includes: Algorithms and Data Structures, Program Design and Development, Software Engineering, Data Science, Internet Programming, Artificial Intelligence

Data Analytics Professional Certificate Program, Google *2023*

The program covers analytics and data visualization techniques using Google Sheets, MySQL, Google Analytics, Tableau, and R programming.

SKILLS & EXPOSURE

Languages and Libraries: *Python*, TensorFlow, Pandas, NumPy, Selenium, BeautifulSoup, Unix, *C/C++, Java, JavaScript*, *TypeScript,* Next.js, React, Tailwind CSS, HTML, *OCAML*

Database: SQL, MySQL, MongoDB, Firebase

Software: Git, Google Colab, LaTeX, Excel, Google Sheets

Technique: REST APIs, SCRUM, Multi-Threaded Programming, Scripting, Automation, Web Scraping, Data Mining, Data Visualization, Database Design, Statistical Analysis, Unit and Integration Testing, Technical Requirements Specification, Software Diagramming, Technical Writing, OOP, Functional Programming

PROJECTS

Dual Heuristics with Graph Search Depth-Limit Pruning: An Approach to the Personnel Tour Scheduling Problem, *Python*

- Undergraduate Senior level Artificial Intelligence (AI) course research paper on the personnel tour scheduling problem.
- Developed a novel approach to a famous scheduling algorithmic problem:
- Separate the resource and the time slots to have their own heuristics, traditionally they are combined for efficiency.
- Mutual recursive functions are used to explore the search space of possible scheduling arrangements (A->B->A->B->A…)
- This approach is customizable but slower than classic solutions. It lets the end user fine tune the priority factors of each restraint on the selected targets, which is nearly impossible with a traditional combined approach.

PHRASER.GG, *T3 stack - Next.js (React), TypeScript, tRPC, Prisma, Tailwind CSS, MySQL, PlanetScale*

- A daily, deceptively complex novel English word puzzle, built with a robust modern web framework fully independently full-stack.
- At 1 month into development, it existed as a web app hosted and deployed through Vercel.
- Users accounts validated through Clerk as an authentication service.
- Daily game history and user entries are validated server side, with tRPC API routers and Prisma for powerful type safety between backend and frontend types.

Wordle Solver and Wordle Clone, *Python script*

- Solves the New York Times Wordle daily puzzle by entering a guess and the results side by side to the puzzle.
- Suggests next best guess for the player by using a constructed word suggestion ordering.
- The project time was short; 12 hours. My script beats me 7/10 times, with a much better average.
- Order the words by how you expect them to be most likely, then use gained information from guesses to narrow down the universe of possible options.

PPALMS (Parsons problem generation), *Python*

- Parsons problems are:
  - used to help new programmers understand how to write code; by
  - manipulating the arrangement of code lines to find the correct sequence.
  - If the orientation solves the problem, or is the ultimate correct orientation then it is a success.
- System made to generate problems for upload to popular Learning Management Systems
- Led a 4 student team in a Software Engineering course through the process of user elicitation, requirements specification, followed by
- Continuous development under SCRUM framework running weekly sprints

Multi-process web browser, *C*

- Operating Systems course project
- Leading a 3 student team in building out multi-process web browser
- Made use of low-level system calls, C libraries