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SARAH MURRAY

Developer. Mentor. Activist.

EXPERIENCE

Mess – *Full Stack Developer*

MAY 2023 – Present

- As the senior dev assigned to our largest client, Farmers Insurance, I collaborated closely with other developers, QA engineers, and project managers to deliver high-quality code solutions, implement new features, and maintain the infrastructure of the Farmers AGP platform, which is used by millions of insurance agents nationwide.
- Maintained robust RESTful APIs using Django Rest Framework, data persistence with Redis, and asynchronous task management with Celery, enabling seamless communication between frontend and backend systems.
- Utilized Django to architect and implement backend services, ensuring optimal performance, security, and scalability.
- Integrated Vue.js, Vite, Pinia, and Tailwind CSS into backend systems to create seamless user interfaces and interactive experiences.

AbleTo, Inc – *Software Engineer II*

AUGUST 2022 – MAY 2023

- Responsible for effectuating a significant increase in UI performance through utilization of optimistic state updates.
- Assisted in putting a novel Redux factory into practice using React, RTX, SQL, and Saga middleware.
- Instrumental in implementing the Pact contract testing framework to ensure cooperation between our microservices' REST APIs.
- Expertise in Test-driven development, Agile methodology, Pair programming, and Continuous Integration/Continuous Deployment.

Drift Net Securities — *Senior Software Engineer & Team Lead*

NOVEMBER 2020 – JUNE 2022

- Oversaw the development (from beginning to beta release) of our flagship software, KnowWhat: a robust, fully-functional application that gives schools the tools they need to respond to any emergency or crisis in a split-second. KnowWhat was built using React, Redux, and React Router for the front end, Node JS via AWS Amplify for the backend, and DynamoDB and S3 for storage and data management.
- Responsible for building and leading a highly-qualified team of developers and taking on leadership responsibilities such as: transitioning to an Agile/Scrum development model, ensuring technical documentation and functional flow diagrams were up to date, and implementing a JIRA-based ticket system.

- Took ownership of all data acquisition that would be pertinent to our software (for example: scraping Twitter threads for mentions of school violence) using web scraping tools like Selenium, Beautiful Soup, Scrapy, and Splash.

FreeGeek Chicago — *Data Analyst & Full-Stack Developer*

SEPTEMBER 2017 - OCTOBER 2020

- Conceptualized, researched, designed, and coded a web application explaining the impact of the Chicago criminal justice system as contracted by Smart Chicago, which was built using JavaScript, Vue, Node JS, HTML, CSS, AWS Amplify, and PostgreSQL.
- Collaborated within a team to architect a web crawler utilizing Scrapy, Beautiful Soup, and Selenium. The crawler was engineered to identify "extremist" language within social media posts across platforms such as Facebook, Twitter, and Reddit. Compiled pertinent text and metadata into an API for subsequent utilization in diverse data analysis methodologies.
- One application, The Circuit, saw our team synthesize data from multiple sources to track the population of Cook County Jail over time and summarize trends.

Academic Approach — *Math & Computer Science Tutor*

AUGUST 2017 - JULY 2019

- Prepared weekly lesson plans, worksheets, and practice tests to help college and high school students achieve higher grades in their Mathematics and Computer Science courses.
- Guided students in developing robust programming skills by ensuring that they were well-versed in the fundamentals of data structures, algorithms, modern operating systems architecture, and principles of computational thinking.

NogginLabs, Inc — *Software Architect*

AUGUST 2015 - DECEMBER 2016

- Along with award-winning designers and writers, coded creative e-learning web applications and adapted solutions according to clients' needs.
- Used JavaScript frameworks, such as Backbone and Marionette, and libraries such as GreenSock Animation Platform to make creative, interactive, engaging activities.

Cook County Sheriff's Office — *Data Analytics Summer Fellow*

JUNE 2015 - AUGUST 2015

- Analyzed inmates' lengths of stay in the Cook County Jail using Stata and Excel in order to design new quarterly reports using updated metrics.
- Interviewed inmates residing in the jail regarding their bonds and lengths of stay in order to fill in gaps in the data.
- Defined optimal data models and created comprehensive data visualizations using Python, Tensorflow, Pandas, and Flask to support the consumption of information in both the updated quarterly reports and final presentation.
- Presented my findings to Cook County State's Attorney Susie Bucaro, Sheriff Tom Dart and his team, and several judges, which led to the adoption of the new quarterly reports.

Chicago Tribune — *News Applications Intern*

JUNE 2014 – AUGUST 2014

- Designed and programmed web applications from conception to implementation for a national audience using Figma, React, Redux, and Amplify.
- Spearheaded debugging and documentation for the Tribune's open-source content management system, Tarbell.
- Along with my team, our project "Chicago Under the Gun" received the Peter Lisagor Award for Best Online Multimedia Presentation.

OPEN SOURCE + PROJECTS

Bayanat — *Syria Justice and Accountability Centre*

FEBRUARY – NOVEMBER 2023

- Bayanat is an open-source relational database software built primarily with Flask, NGINX, Redis, and Celery that allows activists and NGOs to analyze over 2 million pieces of open-source data and field documentation and mine for evidence of war crimes, acts of genocide, and crimes against humanity.
- Contributed to a series of transformative updates and improvements to the platform's security, efficiency, and user experience; specifically, I aided in the development of a new Component Data Management tool, which enables administrators to customize their Bayanat systems to any context or specific investigation they are researching.

Child Safety Hackathon — *1871 Chicago Innovation Hub*

OCTOBER 2020

- Prototyped an open-source crowdsourcing app using React and Django to help law enforcement quickly identify objects in child abuse images.
- Explored data that could be used to identify regional trends and created robust data visualizations based on these findings.

Open Hack Days Volunteer — *FreeGeek Chicago*

JANUARY 2019 – OCTOBER 2020

- During Open Hack days, I introduced newcomers (mostly low-income women and victims of domestic violence) to front-end web development so they could find gainful employment. Skills taught: fundamental principles of software architecture, version control with Git, and foundations of web development with HTML, JavaScript, CSS, Bootstrap, and jQuery.

RELEVANT SKILLS

- Programming languages: Python, JavaScript, TypeScript, HTML, CSS, SQL
- Frontend frameworks: React, Redux, Vue.js, Vite, Svelte, Tailwind CSS, Sass/Less
- Backend & Database frameworks: Django, Django REST, PostgresQL, Flask, Node.js, Celery, DigitalOcean, AWS (DynamoDB, S3, Amplify, EC2, SNS/SES, & Lambda)
- Test-driven development using Jest, React Testing Library, Mocha, Pact
- Completed a certification course in Agile and Scrum methodologies
- Version control using Git and CI/CD management using Gitlab and Amplify

- Technical writing, including Architecture & Design Documents, test plans, functional flow modeling, and end-user documentation

EDUCATION

DePaul University — *M.Ed. and M.A.*

AUGUST 2017 – DECEMBER 2019

- Master of Education & Master of Arts in Secondary Education (Mathematics)
- Graduated with distinction, Cum Laude

Loyola University Chicago — *B.Sc. and B.A.*

AUGUST 2010 – JUNE 2014

- Bachelor of Science in Computer Science, GPA: 3.7
- Bachelor of Arts in Digital & Visual Journalism, GPA: 3.9
- Graduated with distinction, Magna Cum Laude