MARK J DRUMMOND

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PERSONAL STATEMENT

I have been passionate about software development since I was a teenager. I was proficient in HTML, CSS, and the LAMP stack by the time I graduated high school. In college, I worked as a web developer in various settings. When I moved to Seattle, I established a career in and passion for public health research. Throughout my fifteen years in the field, I have seen the wheel recreated countless times in an ad hoc manner. I am passionate about ending this cycle by developing software tools and applications that are configurable to meet the needs of more than one project or lab. I am also passionate about modernizing public health IT infrastructure while hedging away from the "bleeding edge" of technology. Combining my skills, knowledge, and experience in programming and public health research, I am seeking employment as a software engineer or data manager at a public research university.

QUALIFICATIONS

✔ Communication Skills: Experience in a variety of customer service and office settings. Friendly and professional communication style. Customer-centered attitude. Proficient in presenting information to stakeholders with various levels of technical knowledge. Excels at customizing solutions to meet clients' needs.

✔ Data Management Skills: Proficient in combining software development best practices with Good Clinical Practice to protect PHI. Proficient in database design, SQL, ETL processes, maintaining existing code, and establishing new and reusable data pipelines. Proficient in REDCap: project design, survey and form development, branching logic, calculated fields, variable piping, extensive API usage, Data Entry Trigger usage, and producing custom reports. Proficient in Microsoft Excel including using Pivot Tables, creating compelling charts and graphs, and developing custom Microsoft Office macros in Visual Basic for Applications.

✔ Software and Web Development Skills: Proficient in HTML5, CSS3, Bootstrap, Materialize JS & CSS, JavaScript ES6, jQuery, Node.js, Express.js, ReactJS, Mongoose, GraphQL, PHP, MySQL, MongoDB, WordPress, Drupal 7, ORMs, PWAs, SPAs, CMS design and development, OOP principles, and writing & conducting tests. Emphasizes mobile responsiveness and web accessibility. Proficient in software development process tools including GitHub, Heroku, DNS, Microsoft Visual Studio Code, and waterfall and Agile development life cycles.

✔ Work Ethic: Proven ability to work well in a fast-paced environment in a team and independently, in-person and remotely. Proven ability to prioritize, multitask, and put in extra time to meet deadlines. Produces software very quickly to meet specification while understanding stakeholders' value on the "nice-to-haves".

SOFTWARE & WEB DEVELOPMENT PROJECTS

See more at my portfolio website: https://www.markdrummond.me

UW Chu Lab Research Study Software

Deployed internally | Developed individually and in a team setting for University of Washington Chu Lab

A PHP website and set of command line tools developed for research studies utilizing the HIPAA-compliant database & survey program REDCap. I produced new PHP code to batch API calls due to the larger-than-expected size of a CDC-funded study's REDCap database. I maintained, updated, and added new features to the study's project reports to the CDC based on specifications and feedback from Principal Investigators, funders, and program, project, and lab managers. I developed a JavaScript app for lab personnel to perform quality control on boxes of samples received from a partnering lab by scanning sample barcodes with a barcode reader. I developed version 2 of the code that, using the REDCap API, automated sending text messages on demand, weekly, and monthly to 3,500 recipients, based on study timelines and participant activity. I developed a suite of reporting tools to build custom REDCap reports for data analysts. I used these reports myself to identify missing research results and worked with lab staff to account for over 215,000 aliquots and nasal swab samples.

Center for Stewardship in Medicine

Deployed at https://www.uwcsim.org | Developed independently & remotely, continuing work from previous developers

A Drupal 7 website to facilitate the training of antimicrobial medicine stewardship in rural and suburban hospitals. I used the Display Suite, Views, and Advanced Forums modules, and extended an existing custom module, to add new functionality and create a better user experience per the center administrator's direction.

Total Quest

Video preview available at https://www.markdrummond.me | Developed in a team setting, remotely, as a course project

A mobile-first scavenger hunt web app that uses QR codes placed in physical locations. We developed the project with the MERN stack, React Material UI library, and GraphQL. I wrote the React front-end admin panel and the app's back-end models, typedefs, queries, and mutations for Mongoose ODM & GraphQL. I configured the Heroku app, the domain's DNS settings, and the TLS certificate through LetsEncrypt.

Compassionate Palate

Deployed at https://compassionate-palate.world | Developed individually

A WordPress website for a restaurant reviewer. I used the Kubio plugin to align the website's design to the client's vision. I set up SEO plugins to provide usage analytics.

Eclectic Carnival

Video preview available at https://www.markdrummond.me | Deployed at https://snapi.markdrummond.me

A demonstration of an Express.js & Mongoose API back end for a social network deployed at. The app is strictly an API, so users must interact with it via an API client. See the repo's README for information on how to use the API. I configured the Heroku app, the domain's DNS settings, and stored the database credentials as Heroku "config vars" to keep them secure. The app uses the Mongoose, Express, and Luxon Node.js packages.

WORK EXPERIENCE

University of Washington Chu Laboratory | *Seattle, WA*

Software Engineer | *Feb 2023 – present*
- Improved the reusability, security, maintainability, and readability of the Lab's existing codebase
- Integrated new code into the existing codebase to perform ETL operations in REDCap, automate research study tasks, and create reports from live data
- Met with various stakeholders to determine the specifications of new software
- Proactively created reporting tools and manual reports to determine missing research sample results
- The Lab's program manager found that my software adds value to research participant experience, catches errors before they become problems, and saves countless hours of office and laboratory staff labor

University of Washington Center for Stewardship in Medicine | *Seattle, WA (remote)*

Web Developer | *July 2022 – Feb 2023*
- Overhauled the way content creators produce the Center's courses and how participants access course information, adding new functionality to specification in order to meet CDC grant deliverables
- Updated Drupal 7 website with custom PHP, SQL statements, and CSS throughout the site
- Wrote website documentation for web developers, non-technical managers, and content editors

University of Washington Virology Research Clinic | *Seattle, WA*

Program Assistant, Research Study Coordinator, Research Coordinator | *Aug 2009 – Feb 2023*
- Designed, developed, deployed, and maintained the clinic's website: a full stack LAMP CMS
- Created reusable study tracking tools and reports using Microsoft Excel VBA macros
- Created print & digital advertisements with Canva and Adobe Photoshop & Illustrator
- Wrote documentation for the clinic's IT tasks for a non-technical audience

OTHER RELEVANT EXPERIENCE

From 2007-2010, I worked individually and as part of a team at a small web design firm, a political tech start-up, and a contractor. I developed full stack LAMP CMSs using the CakePHP MVC framework and jQuery and integrated credit card processing. I used Subversion version control software in one position.

EDUCATION

Certificate in Full-Stack Web Development, University of Washington, *March 2022*
Bachelor of Arts, Political Science, University of Kansas, *May 2009*