Matthew Scanland

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**Professional Success**

Virginia Tech Center for Power Electronics Systems (CPES), Blacksburg, VA, 2019 – Present

**Software Engineer**

* Responsible for working unsupervised in designing and developing web applications for public-facing and internal websites; including iterating through the full lifecycle of an application and coordinating workloads on schedule.
* Migrated the in-person annual conference to a hybrid event, thereby tripling attendance.
* Augment custom-built PHP framework by modifying SQL queries and data retrieval algorithms.
* Effective communication with diverse team to deploy and maintain Docker containers, Apache web servers, and Azure technical solutions.
* Drive the restructuring and normalization of MySQL schema to optimize performance and space requirements.
* Liaise with external companies and departments to implement technical solutions.

Core Competencies

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| * Web Applications * Project Leadership | * Problem-Solving Expertise * Software Architecture | * Documentation * Communication |

**Significant Projects**

Full Stack Internal Website Rebuild [*https://portfolio.matthewscanland.com/rebuild/*](https://portfolio.matthewscanland.com/rebuild/)

* Spun-up a new web server and moved all pre-existing HTML and Google Apps Script to a LAMP stack featuring a custom PHP framework.
* Rebuilt all pre-existing applications from an Apps Script environment to a custom PHP MVC framework.
* Implemented a multi-factor phpCAS login system for greater security.
* Built admin pages and subsections featuring route protection and permissions.
* Established a MySQL database, focusing on interaction between contained applications.
* Created a local REST API to ease application communication.
* Cleaned up existing core code to improve readability, algorithm speed, and functionality, in addition to promoting code scalability.

Lab Validation System [*https://portfolio.matthewscanland.com/validations/*](https://portfolio.matthewscanland.com/validations/)

* Built the complete internal Lab Validation System; this system tracks and calculates billing totals using student hours, accounts, holidays, vacations, and other data.
* Devised an SQL database schema that enabled future modifications and quick retrieval of data.
* Streamlined the validation process for all faculty, staff, and students; this resulted in cutting the validation timeframe to 1/4.
* Allowed staff to quickly view and edit information using a single-page app; this included statistics, missing signatures, exporting data as a CSV, and viewing activity in a FullCalendar UI.
* Integrated the student vacation system to further automate the validation process.

Purchasing & Reimbursement Systems

* Crafted internal purchasing and reimbursement apps to coordinate the status of requests.
* Automated the purchasing and reimbursement process, allowing the staff to work on more important matters.
* Conceived a structured order of approval for requests, promoting more organized communication.
* Enabled users to store personalized information for easy reordering and customized requests.
* Queried large datasets in near real time.

**Technical Skills**

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| Programming Languages: | CSS, JavaScript, Java, JQuery, PHP, Python, SQL, C# |
| Tools: | .NET, Azure, EF Core, Apache, Docker, ElasticSearch, Git, Linux, MariaDB, phpCAS, RESTful API, Windows, Vue, AWS |

**Education**

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| Virginia Tech  BS Computer Science | Blacksburg, VA |