

MATTHEW SCANLAND

mkscanland@gmail.com · (540) 267-5538 · [Portfolio.MatthewScanland.com](https://portfolio.matthewscanland.com) · [GitHub](#)

EDUCATION

Virginia Tech
BS Computer Science

Blacksburg, VA
2015 - Jan 2019

RELEVANT WORK EXPERIENCE

Center for Power Electronics Systems (CPES), Virginia Tech
Webmaster and Digital Content Specialist

Blacksburg, VA
April 2019 - Present

- Solely responsible for designing and developing web applications for the external and internal websites. Including iterating through the entire lifecycle of an application.
- Streamlined content creation by improving upon existing custom-built CMS.
- Work with a small team to deploy and maintain Docker, web servers, and cloud storage.
- Created multiple micro apps and scripts to improve upon the organization, automation, and IT structure of the Center.
- Create workflows, identify problems, and self-prioritize needed applications for the organization.

TECHNICAL SKILLS

Programming Languages: Javascript, JQuery, CSS, PHP, Python, Java, SQL
Tools: Git, Agile Methodologies, Linux, Docker, phpCAS, MariaDB, ElasticSearch, and experience with Vue, AWS (EC2, S3, RDS), Windows, Apache, Xibo

PROJECTS

Full Stack Internal Website Rebuild

<https://portfolio.matthewscanland.com/rebuild/>

Spin up a new web server and move all pre-existing HTML and Google Apps Script to a LAMP framework with a custom CMS.

- Rebuilt all pre-existing applications from an Apps Script environment to a custom PHP-based MVC framework.
- Implemented a multi-factor phpCAS login system for greater security.
- Upgraded existing server infrastructure to account for the new requirements.
- Implemented a MySQL database, focusing on interaction between contained applications.
- Cleaned up existing core code to improve readability, existing algorithm speed, and functionality and continue to implement web apps and improve CMS functionality.

Lab Validation System

<https://portfolio.matthewscanland.com/validations/>

Complete build of the internal Lab Validation System. This system tracks and calculates billing totals using student hours, accounts, holidays, vacations, and other facets.

- Created a database schema that allows for future modifications and quick retrieval of data.
- Streamlined the validation process for all faculty, staff, and students involved.
- GUI lets admin staff quickly view and edit information including; statistics, missing signatures, export data as a CSV, and a calendar-based vacation view.
- Integration of the student vacation system automates the process of inputting the same data into separate systems.

CPES Website Rejuvenation

<https://cpes.vt.edu/>

A complete front-end rejuvenation and back-end search functionality improvement for the main CPES website. A team of external web developers was contracted to assist in the rebuild.

- Teach the external developers about the custom-built CMS.
- Gather and coordinate the flow of information from the CPES Executive Board to the web developers in a format that everyone could understand.
- Review any code changes to the systems and approve those changes.
- Assist in installation and deployment of the ElasticSearch system.
- After project completion: clean up and improve some algorithms, improve metadata for search functionality, implement a Kibana GUI to easily view ElasticSearch info.

GreenSites

B.S. Capstone project - a Java Android application that tracks sustainable campsites.

- Implemented a connection to a Google Maps API with pins on each sustainable campsite for both online and offline use.