**Work**

Give Me a Break from Cancer

*developer, fall 2015 – spring 2016*

* Designed, developed front-end single page app with MVC architecture for non-profit branding website with AngularJS
* Designed, developed UX/UI of website and mobile web version
* Organized modules and services to leverage scalability, abstraction, generic usage, and flexibility
* Centralized functionality into services used in multiple configurable ways
* Worked with graphic designers and content producers to fill out site
* Developed state based navigation system to allow changes to navigation (scope, view, and url selection) during development and ongoing to be trivial
* Developed individual UI components with JavaScript/HTML/CSS delivered

Cybermedia Technologies

*developer, fall 2012 – spring 2015*

* Developed JavaScript, HTML, CSS, PHP, ActionScript, and VBA as needed to support contract
* Developed OOP software to manage a quiz in an online course, class hierarchy, inheritance, separation of concerns, DRY, integrated with Flash animation to present quiz to learners
* Developed macro to process 150-page Word documents and eliminated dozens of man-hours of manual work
* Designed and developed content issue tracking web app, JavaScript/HTML/CSS frontend with PHP and MySQL database backend, this web app was developed entirely with native JavaScript, no assistive app frameworks like Angular were used
* Experience with 508 compliancy

**Skills**

* Software Development, Software Architecture, Software Abstraction
* Software Automation, Software Engineering, Object Oriented Programming
* Mobile Apps, Mobile Web, Responsive Design
* User Experience, User Interface (UX/UI), interface design
* Class Structures, Object Structures, Inheritance
* Requirements Definition, Requirements Gathering, Requirements Managements
* JavaScript, HTML, CSS, PHP, Objective C, Java, VBA, ActionScript, JSON, REST, MVC
* iOS, Android, Unix
* AngularJS, NodeJS, ExpressJS, Bootstrap, Git
* Heroku, Netlify, Firebase
* Write clean, Maintainable, Scalable, High-quality, High-performing code
* site hosting, domain registration, DNS configuration
* significant written communication and writing skills
* other communication, interpersonal, leadership, mentorship
* math, physics, engineering, motion dynamics, other technical skills

**Education**

Penn State, BS Aerospace Engineering (2009), MS Aerospace Engineering (2011)

**Portfolio (Web)**

[evolve.methodswithclass.com](http://evolve.methodswithclass.com)

*Non-responsive, best viewed on desktop*

* Artificial Intelligence, evolutionary programming, genetic algorithm (GA)
* Developed generic GA software that uses generations of sets of solutions to induce machine learning for any given problem
* Developed GA with enough abstraction to allow a multitude of learning problems to be addressed
* Designed and Developed Angular web app demonstrate the machine learning capabilities of the GA
* Designed architecture of the web app to deliver the bottom level GA software where necessary and handle the multiple learning problem implementations
* State based navigation, single page web app, OOP design
* Modular design, reusable code, heavy attention to organization and architecture
* For “cleaning robot” program, machine learning algorithm teaches the program to improve performance by 30x in only 1000 generations

[gravity.methodswithclass.com](http://gravity.methodswithclass.com)

*Requires a device with an accelerometer, best viewed on an iPhone (updates for Android are in the works)*

* Developed algorithm to handle device accelerometer data and filter it into usable data (velocity, position) in real time
* Designed and developed Angular web app to demonstrate algorithm in use as a game to move a ball around on screen by moving and tilting the physical device around
* Developed checks for access by app to the device accelerometer and gives proper warnings if they fail, also give warnings when screen rotates so that it can only be played in portrait (web version)
* Developed platform to handle the development of different games that all use the same interaction principle based on original algorithm
* Developed games to keep track of score, time, and arcade style graphics
* Developed version for iPhone and Android web browsers with JavaScript Angular single page web app
* Developed version for iPhone iOS native app in Objective-C

[www.gentlephrasing.com](http://www.gentlephrasing.com)

*Fully responsive, view on both desktop and mobile*

* Designed and Developed frontend blog site
* Developed Angular I/O module to read .txt files that sit on server that allow population of blog text for each page
* Developed technique using PHP to edit the index.php file meta data per request, this allows Facebook and other social media crawlers to automatically populate “share” objects just given a url, the result is the ability to share individual blog articles from a single page app with one index file and “one” set of meta data (found code, modified for my purposes)
* Responsive design, mobile recognition, changes which view is served depending on device
* AngularJS single page web app

[code.methodswithclass.com](http://code.methodswithclass.com)

*Fully responsive, view on both desktop and mobile*

* code samples, documentation
* Global CSS that can be applied to any project
* Angular directive for parallax scrolling, accounts for any screen and image size
* Angular service for firing events in one part of app from another part of app
* Angular service for sending data from one part of app to another part of app
* Angular directive for development console that prints JavaScript console entries to the screen for mobile debugging
* Implemented version release system for all the above, can update code without breaking existing projects

[www.methodswithclass.com](http://www.methodswithclass.com)

*Fully responsive, view on both desktop and mobile*

* Designed and Developed front end Angular app to be online business card
* Developed parallax scrolling component in Angular that is globally available and is used here
* Responsive design, mobile recognition, changes which view is served depending on device
* Angular single page web app

**Portfolio (Mobile)**

*Gravity, iOS, app store compliant*

* Developed algorithm to handle device accelerometer data and filter it into usable data (velocity, position) in real time
* Developed original mobile application that was subsequently ported to web version described above ([gravity.methodswithclass.com](http://gravity.methodswithclass.com/))
* Developed in Objective-C, standard OOP classes, inheritance, object modeling, and parameterization

*Call Log app, Enterprise Android, for client*

* Gathered Requirements from Enterprise client for Android app to be used on employee phones in the field to report metadata back to central database
* Designed, developed UX/UI to allow users to easily manage which calls had been reported and which still needed to be reported
* UX design included seamless integration with the native phone services of the Android device so that users could record their comments at the end of the call automatically
* PHP backend on central server to be hooked into for Read/Write functions by field client apps
* Permissions and security considerations were the priority