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EDUCATION AND RELEVANT COURSEWORK

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**Tacoma, WA**

**Pacific Lutheran University**

**Spring 2017**

- Bachelor of Science in Mathematics
- Bachelor of Arts in Computer Science
- Cum Laude, GPA: 3.6/4.0
- Dean's List Fall 2015 and Spring 2016
- Phi Theta Kappa Honor Society
- Relevant Coursework: Abstract Algebra, Computer Networks, Data Structures, Databases and Web Programming, Intro to Computer Science, Machine Learning, Mathematical Analysis, Numerical Analysis, Web Development

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PROGRAMMING AND TECHNOLOGIES

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- **Programming Languages:** Java, Python, JavaScript/TypeScript, R, PHP
- **Version Control Systems (VCS):** Git
- **Frameworks:** Angular 2, Laravel
- **Dependency Managers:** Bower, Composer, Npm
- **Template Engines:** Twig
- **Content Management Systems (CMS):** WordPress
- **Servers:** Apache, NodeJS
- **Databases:** MongoDB, MySQL
- **Systems:** Linux

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TECHNICAL EXPERIENCE

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**Personal Project**

**Linux Server**

**Apr 2016 — Present**

- Deployed an Apache web server and a Postfix mail server on Debian GNU/Linux.
- Set up a command line email client called Mutt to send and received encrypted emails using GnuPG.
- Provided web services such as RESTful APIs and an Internet Relay Chat (IRC) server.
- Implemented using Bash, Apache, Mutt, GnuPG, NodeJS, Python, and UnrealIRCd.

**Professional Project**

**PHP 7 Framework from Scratch**

**Jun 2017 — Jun 2017**

- Built a PHP 7 model-view-controller (MVC) framework from scratch.
- Included an advanced router and classes in namespaces with autoloading.
- Used the Composer tool to manage third-party package dependencies.
- Created controllers with action filters, views including the Twig template engine, and models with resource-friendly database connectivity.
- Utilized an environment-friendly configuration and error handling/logging.

**Senior Project**

**Testing for Compositeness**

**Sep 2016 — May 2017**

- Explored the mathematical formulation of the Miller-Rabin test for compositeness and used Python to implement it along with its supporting concepts.
- Compared the performance of the Miller-Rabin test with a support vector machine binary classifier from Scikit-Learn.
- Implemented the Miller-Rabin test as an Angular 2 web application in order to showcase it during a 15-minute presentation.
- Implemented using Python and Scikit-Learn.
- Source code: <https://github.com/aM3z/testing-for-compositeness>
- Demo: <http://www.miguelamezola.com>

**Senior Project**

**Protein Function Prediction**

**Sep 2016 — May 2017**

- As a team of three, used machine learning algorithms to develop models for predicting the sets of cellular functions associated with protein sequences.

- Used the models in an international bioinformatics competition known as the CAFA3 experiment.
- Developed a web application with ReactJS and Python Flask that allows users to interact with the predictive models.
- Implemented using the R Programming Environment, Python, NumPy, Scikit-Learn, ReactJS, AJAX, JSON, Python Flask, and MongoDB.

**Class Project** **Surviving the Titanic** **Jan 2017 — May 2017**

- Developed a decision tree classifier from scratch in order to predict survival on the Titanic
- The mean accuracy of the tree predictor was compared with that of a Scikit-Learn bagging meta-estimator.
- As an extra feature, added a method for exporting a representation of a tree as a DOT graph.
- Implemented using Python, Scikit-Learn, and Graphviz.
- Source code: <https://github.com/aM3z/titanic>

**Personal Project** **Affine/Polyalphabetic Cryptosystems** **Sep 2016 — Dec 2016**

- Used concepts from a course in abstract algebra to implement the affine Hill cipher.
- Developed an R package featuring a variety of functions for modular arithmetic and linear algebra.
- Implemented using the R Programming Environment and Shiny, a web application framework for R.
- Source code: <https://github.com/aM3z/ragde>
- Demo: <https://amezolma.shinyapps.io/ragde/>

**Class Project** **Animal Rescue Website** **Sep 2016 — Dec 2016**

- Worked with a partner to create a PHP website for a fictitious animal rescue center.
- Focused on providing thorough PHP form validation.
- Implemented in HTML5, CSS3, PHP5.
- Source code: <https://github.com/aM3z/animal-rescue>
- Demo: <https://www.cs.plu.edu/~amezolma/projects/animal-rescue/>

**Personal Project** **Interactive Bell Curve** **Jun 2016 — Jul 2016**

- Created an interactive bell curve to help students in an elementary statistics course.
- Used numerical analysis to compute the z-score corresponding to a given cumulative distribution function value.
- Implemented using TypeScript, Angular, and Bootstrap.
- Source code: <https://github.com/aM3z/bell-curve-js>
- Demo: <https://www.cs.plu.edu/~amezolma/projects/web-portfolio/projects/bell-curve.php>

**Personal Project** **Markdown Editor** **Jan 2016 — Jan 2016**

- Developed a string matching and parsing algorithm for parsing Markdown into HTML.
- Used TypeScript to implement the algorithm in order to edit posts in a mathematics blog.
- Features thorough unit testing with the Mocha JavaScript testing framework and the Chai assertion library.
- Source code: <https://github.com/aM3z/QuetzalJS>
- Demo: <https://output.jsbin.com/hododa>

PROFESSIONAL EXPERIENCE

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**Supplemental** **Pierce College** **Jan 2015 - Feb 2017**  
**Instruction Tutor**

- Used a student-first approach in planning and leading group study sessions for traditionally challenging mathematics courses.
- Assisted students in comparing notes, discussing important concepts, developing study strategies, and preparing each other for tests.
- Developed a PHP mathematics blog featuring interactive educational tools, implemented with JavaScript and jQuery, to reinforce concepts from classroom lectures, provide practice quizzes, and share problem solving techniques.

**Administrative** **United States Army** **Mar 2011 - Jul 2014**  
**Support Specialist**

- Led a team of two in providing support that affected the overall welfare and well-being of 180 personnel.
- Assisted leaders with keeping personnel mission-ready and effective in a fast-paced, ever-changing environment.
- Used Excel, VBA, and MS Access in order to collect and analyze data, in addition to preparing official correspondence with MS Word.

**Paratransit Vehicle**

**First Transit**

**Jan 2009 - Mar 2011**

**Operator**

- Took a customer-centered approach in providing safe and expedient transportation to public transit passengers with disabilities.
- Demonstrated great attention to detail in adhering to predetermined schedules and avoiding traffic incidents in a variety of driving environments.
- Reacted decisively and effectively to frequent route adjustments, dynamic passenger needs, and unexpected traffic delays.