(619) 481-2285
pwamsley2019@gmail.com

Patrick Wamsley

pwamsley2015.github.io
github.com/pwamsley2015

Education

Stony Brook, NY **Stony Brook University** **August 2015 - December 2019**

- B.S. in Computer Science, completed December 2019
- Dean's list recipient
- Relevant Coursework: Data Structures and Algorithms, Software Engineering, Design Patterns, Algorithm Analysis, Networks, Databases, User Interface Design, Comp. Architecture & Assembly, Machine Learning, Information Theory, Theory of Computation, Statistics, Calculus III, Linear Algebra, Discrete Mathematics, Graph Theory & Combinatorics

Technical Skills

- Languages: Java (Advanced); Experienced: Javascript, SQL, C++, C, Python, SML, MIPS assembly; Familiar: Zsh, Bash, R
- Development: Git & Github, Hibernate, JPA, React, OpenGL & JOGL, HTML, CSS, Bootstrap, JSON, XML, UML sequence and class diagrams, Maven
- Applications: LucidChart, IntelliJ, Eclipse, SourceTree, WireShark, Slack, Trello
- Other: LaTeX, Excel & Google Sheets

Programming Projects

- **Majority-Minority Congressional Redistricting | Java, Hibernate, Angular**
  - Full-stack web application used to generate congressional districts to maximize the number of Majority-Minority Districts to combat partisan gerrymandering
  - Created Algorithm Step Framework to modularize Algorithm implementation
  - Implemented Graph Partitioning and Simulated Annealing Algorithm to generate optimized districts
- **Personal Assistant Bot | Java, Twilio Messing API**
  - Chat bot which automates daily tasks, manages my schedule, and logs task specific data
  - Dynamic IO layer configured with Webhooks
- **pwamsley2015.github.io | React, Bootstrap, JavaScript, HTML & CSS**
  - My personal portfolio website with Sidebar and Banner components, and responsive page navigation
- **MedCluster.me | Python, JavaScript**
  - Machine Learning and Data Visualization tool created to shorten emergency response times by optimizing the location of emergency response teams
  - Implemented backend system including *k*-means clustering algorithm to create optimized groupings from public emergency call data
- **FIRST Robotics Competition (FRC) | Java**
  - Autonomous and teleoperated robot control
  - Implemented PID control and vector-based omni-directional drive train

Work Experience

- **RoboLink** **Summer 2017 & 2018**
  - Contributed to external hardware API built for Drones and Arduino based Robot Kits
  - Taught courses which introduced students to programming in C for external hardware
  - Developed curriculum for advanced programming courses

Other Skills and Projects

- Leadership and team experience:
  - Managed team of 30+ students as strategy lead on FRC team 2485
  - Mentored 20+ students in Multithreaded and Object Oriented Programming as a head programmer on FRC team 2485
- Wrote a Game Theory No Limit Texas Hold'em Poker Guide in LaTeX
- Competitive USAPL Powerlifter