MICAH SHUTE
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Software Engineering – Programming – Development

Computer Engineer, Full Stack Web Developer, and Military Veteran previously holding a Top Secret / SCI security clearance. Experienced leader, managing complex systems and equipment including maintenance, updates, and teams of technicians. Vast experience in electrical, mechanical, and nuclear engineering as well as project management. Experience developing full-stack web applications and programming technical solutions to complex problems. Career supported by a Bachelor of Science in Systems Engineering, Full Stack Web Development program from Flatiron School, and an M.S. in Computer and Electrical Engineering.

- Technical programming
- Full Stack Web Development
- Algorithm Development
- Systems Operation
- Technical training and Development
- Team Leadership
- Technical Oversight
- Data Trend Analysis
- Policy Implementation

Technical Skills

Languages/Frameworks: Ruby, Python, JavaScript, React, Ruby on Rails, Java SE8 (OCA Certified), HTML, CSS, Swift, MATLAB, Simulink, Excel
Operating Systems: OS X/iOS / Linux / Microsoft (and WSL)
Additional: Data Science, Raspberry Pi/Arduino, Mobile App Development

Technical Projects Sample

DSP(Digital Signal Processing) Ruby Gem (https://github.com/micahshute/dsp):

- A selection of the functionality includes:
    - Calculation of the Fast Fourier Transform and Inverse Fast Fourier Transform (using the Radix 2 algorithm)
    - Binomial and Gaussian random number generators and theoretical distribution probabilities
    - Sample, compand, and quantize an analog signal to a digital signal
    - Easy creation of lowpass, highpass, bandpass, and bandstop filtering via the windowing method
    - Easy calculation of convolution, correlation, autocorrelation, and power spectral density of digital signals
    - Digital modulation techniques such as Phase Shift Keying

Odin's Eye Ruby on Rails App(https://github.com/micahshute/odins-eye)

- Fully functioning Ruby on Rails (with Javascript) full-stack web application
- Allows users to use the site as a blogging platform, a Q&A platform, or host/join closed-form classroom environments. Users can react and respond to posts, follow users, and send private messages
- All posts can be written in Markdown (using *kramdown* as a renderer) and supports LaTex equations
- Site is currently hosted on Heroku: https://odins-eye.herokuapp.com/

Rbimg Ruby Gem (https://github.com/micahshute/rbimg)

- Written solely by following the PNG spec documentation (libpng.org)
- Does not use any external libraries, all gem dependencies except for those used for publishing and development are self-written
- Allows the use of an array of pixel data to be used to write a valid compressed and formatted PNG image. Also allows one to retrieve pixel data from a properly formatted png image. This allows a base framework for building ruby image processing code (such as DIY data visualization), as well as easy use for image encoding and encryption.

See more projects and code at https://github.com/micahshute

Professional Experience

FLATIRON SCHOOL **2019 – 2020**

Software Engineering Cohort Lead

Instruct, lead, mentor, and evaluate students' technical abilities throughout Flatiron School's Software Engineering program. Chosen to give instructor training on advanced Computer Science topics such as Algorithms, OOP Design Patterns, and Data Structures.

Lecture, write code, review/evaluate student code, tutor, and help troubleshoot students' programs in topics of

- Computer Science Fundamentals
- OOP
- Ruby, Sinatra, Ruby on Rails
- HTML, CSS
- SQL
- Javascript, React, Redux.

TECHNICAL BLOGGER **2019 – Present**

Cantor's Paradise, Medium

Write articles about Mathematics and Computer Science for a Mathematical Publication on Medium.

Have been published 4 times with articles on Principal Component Analysis, Big O notation and algorithms, the Monty Hall Problem, and Dijkstra's Shortest Path Algorithm.

- Dijkstra's Algorithm Blog
- Principal Component Analysis
- Monty Hall Problem

KAPSTONE PACKAGING AND PAPER [Virginia Ave., North Charleston] **2017 – 2018**

Process Engineer / Recovery Area Manager

Oversaw all aspects of equipment accountability, maintenance, and management. Evaluated operational and program effectiveness at the head of a 20 – operator team.

- Led troubleshooting and identification of vulnerabilities; developed and implemented plans for corrective action; continuously evaluated inefficiencies in scheduling and procedures to introduce solutions and improve operations
- Evaluated regularly standard operating procedures (SOPs), set regulations, and operating policies regarding equipment, identifying gaps and recommending cost-effective solutions

UNITED STATES NAVY - NUCLEAR SUBMARINE OFFICER [Various Locations] **2012 – 2017**

Systems and Operations Senior Manager (2016-2017)

Managed all aspects of operations and personnel management including systems functionality, daily priority oversight, maintenance management, and safety. Supported strategic planning and coordination as well as process improvement. Operated the ship and its nuclear reactor at sea.

- Drove the ship as the Captain's direct representative, requiring intimate knowledge of all onboard systems, weapons, and procedures required to accomplish the mission and ensure the safety of the crew.
- Qualified Engineer of the S8G Nuclear Reactor Plant by the Department of Energy, through multiple written tests and in-person interviews in Washington, DC.
- Calculated ship movements including compensating weight required to safely complete a diving evolution; designed and programmed a new algorithm to improve the accuracy of these calculations
- Evaluated performance of and provided training to personnel to improve the ability to verify system readiness ahead of ship action. maintained, and improved through statistical analysis a Command-wide program for maintenance and operational performance and feedback.
- Led and managed 4 divisions consisting of more than 30 total personnel and associated equipment to include all torpedoes, fire control instrumentation, and sonar technology; coordinated the operation of 3 work centers including maintenance planning and scheduling which led to increased completion of required maintenance by 30%
- Coordinated preparation and training within divisions for 2 complex multi-team and multi-submarine exercises and oversaw successful execution.

- Served as executive leadership's direct representative, sharing information, guiding initiatives, and implementing policy changes
- Facilitated and maintained responsibility for all operations onboard a $2.5B submarine, ensuring the safety of more than 200 personnel, the nuclear reactor, and all related equipment and systems
- Served on a 4 – member council required to concur to approve a nuclear strike

Reactor Control Division Manager and Reactor Plant Supervisor (2014-2015)

Led a team of 15 staff members guiding operations, inspections, safeguard evaluation, reactor procedures, and training requirements. Oversaw complex test sequences and refueling operations. Acted as liaison between agency representatives and served as point of contact for staff updates.

- Guided new and inexperienced employees through the critical monitoring, operations, and evaluation involved in reactor procedures
- Validated the accuracy of documentation related to control circuitry maintenance, evaluating records for more than 1,000 maintenance items for 100% accuracy
- Managed a complete renovation of all reactor protection circuitry during a transition to a microprocessor-based system
- Acted as program manager for an audit and surveillance program, evaluating technician maintenance practices and records; identified and corrected 40+ practices and more than 100 administrative errors
- Led daily updates to a team of 50 operators and supervisors to guide the day's procedures and priorities; oversaw a team of 12 directly reporting operators
- Coordinated information and collaboration between representatives of the military, contractors, and the Department of Energy
- Completed test procedures well under the estimated timeline, reducing the estimated cost by more than $100K while maintaining 100% safety
- Evaluated as having the highest level of knowledge pertaining to nuclear engineering of all direct supervisors by the Department of Energy.

Education, Training & Development

Master of Science, Computer and Electrical Engineering – University of Delaware (Graduated 2020, Phi Kappa Phi, 4.0 GPA)

Full Stack Web Developer, Flatiron School (2019)

Bachelor of Science, Control Systems Engineering – United States Naval Academy (2012)

Naval Nuclear Power School (2013)

Certifications

Oracle Certified Associate, Java SE8

EIT, Electrical and Computer Engineering

Notable Awards

Navy and Marine Corps Achievement Medal (x2)
National Defense Service Medal