

ERIC SOLOMON

FULLSTACK ENGINEER & DATA SCIENTIST



EXPERIENCES

2018
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2019

Fullstack Engineer

Boid: Social Supercomputer

📍 (remote)

- Smart contract development
- Design, implementation, and management of EOSIO-based system for managing a medium-scale distributed computing cluster

2016
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2018

Research Assistant

Alfred Gessow Rotorcraft Center

📍 College Park, Maryland

- Investigations into aerial robotics, control systems, and artificial intelligence
- Design and application of small-scale, intelligent aerial vehicles using solely on-board processors, including experimentation with optic-flow and reinforcement learning for vehicle control



SELECTED PROJECTS

2020

Concierge Intranet Manager

Personal project

{ Apache, Docker, Drupal, Go, GraphQL, HTML5, NodeJS, PostgreSQL, ReactJS, SCSS, }

- Role-based, JAMstack-inspired process management system for local compute clusters to optimize usage of limited compute resources
- Go-PostgreSQL-libcontainer server for container management with JWT-based authentication
- ReactJS frontend, using functional components with hooks and context, and incorporating modern SCSS styling techniques

2018
|
2019

BOID-EOS

Boid

{ C++11, NodeJS, PostgreSQL, Docker, }

- Distributed database schema for managing Boid-associated computers and their computational contributions to the Boid distributed compute cluster
- Advanced, stake-based cryptocurrency on EOSIO mainnet blockchain
- API for querying BOID for auditing accounts and determining user involvement

2018

Metaltail Hybrid VTOL Vehicle

Alfred Gessow Rotorcraft Center

{ Flightlab, Latex, Matlab, Python, Tensorflow, }

- Hybrid hover & forward-flight vehicle for use in urban environments
- Controls system using a hybrid of conventional LQR techniques and experimental reinforcement learning techniques for suitability in hover, forward, and transition flight
- Avionics system focusing on: (1) maximal data throughput and network connectivity, (2) robust sensing, control, and mapping, and (3) maximal weight margins
- Winner of 2018 American Helicopter Society Graduate Design Prize

2016
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2018

Micro-aerial Vehicle Control using Snapdragon Flight

Alfred Gessow Rotorcraft Center

{ C++11, MXNet, Matlab, Python, }

- Micro-aerial system composed of modern techniques in simultaneous localization and mapping (SLAM) using only onboard, embedded processing
- "Autonomous Quadrotor Control and Navigation with Snapdragon Flight". E. Solomon, V. Hrishikeshvan, I. Chopra. American Helicopter Society Forum. Phoenix, AZ. May 2018
- "Visual Odometry Onboard a Micro Air Vehicle Using Snapdragon Flight". E. Solomon, C. Vorwald, V. Hrishikeshvan, I. Chopra. American Helicopter Society Technical Meeting. Phoenix, AZ. Jan 2017.



EDUCATION

2016
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2018

M.Sc. in Aerospace Engineering

University of Maryland

📍 College Park, Maryland

Vehicle and control design of small-scale, autonomous aerial robots

PORTFOLIO

🌐 errcsool.com

🌐 han-so1omon.github.io

CONTACT INFO

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SKILLS

Javascript

React & Gatsby

HTML5

CSS3 & SCSS

SQL (PostgreSQL & MySQL)

GraphQL

Drupal 8

C++ (incl C++11 & C++14)

Python

Scientific Computing

Control Theory

Tensorflow & Apache MXNet

Container Orchestration

Docker & Kubernetes

Distributed Storage

Cryptocurrency

Bash

Linux

Git

2012
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2016

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B.Sc. in Aerospace Engineering
University of Maryland
Minor in Computer Science

📍 College Park, Maryland