

Education

Western New England University - School of Engineering
B.S. Computer Science; Concentration in Artificial Intelligence

Aug 2011 - May 2015

Experience

IBM - Advisory Software Engineer

Jan 2020 - Present

Tech lead for regional-scale health and monitoring solution for IBM Public Cloud (IaaS). Architected dynamic input/output framework to allow different data formats and publishing targets. Supervised development and rollout of new code to production environments

- Staff Software Engineer

Aug 2017- Jan 2020

Core developer of IBM NextGen Public Cloud regional API, designed to be a highly-scalable, performance driven, RESTful API, consumed by a UI, CLI, and customers directly. Microservice architecture (~10 services), deployed to Kubernetes, communicating using gRPC/protobuf framework

Core developer of IBM Genesis Control Plane API, a zonal-level interface providing RESTful methods on Genesis resources that exist within a Kubernetes cluster. Required development and maintenance of Kubernetes "extension" server for custom resource support, as well as CI/CD pipeline (ConcourseCI)

Led team (5 engineers) to create "limiting" service from scratch. Developed plug-and-play middleware to use gRPC interface to enforce account-wide (global) customer resource allocation limits

Led refactor effort of (large) monolithic cloud infrastructure into a lightweight, container based, Kubernetes deployable application. Required ground-up redesigns, especially regarding regional-level scalability, as well as testability

- Software Engineer

June 2015 - Aug 2017

- Designed and developed automation using Ansible/Python for large-scale cloud deployments and management
- Deployed and managed Elastic components (ELK stack), for distributed object storage offering
- Created persistent Python services to automate cloud operations such as health checks, log-rotation, and PXE-booting (network boot)
- Contributed to OpenStack Swift Object Storage development for integration into BlueBox Clouds

ADT - Software Engineer (Internship)

June 2014 - August 2014

- Created server-based application (Java/Jaspersoft) to collect customer data and build interactive dashboards for home-security statistics, trends, and forecasting (still in use)
- Led team (7 other interns) in start-up company simulation for an original, modern home security-product. Won competition, project went to proof-of-concept/prototype stage (project "Nudge")

Skills

Languages

Go, Python, Java

Technologies/Frameworks

Kubernetes, gRPC/protobuf, Docker, Helm, redis, Ansible
Vagrant, ConcourseCI, Jenkins, ELK stack, Postgres

Ideologies

Agile, TDD/BDD, microservices

General

Linux/UNIX, git/submodules, CI/CD, UX, statistics, documentation

Projects (all code on Github)

- skillbased.io (WIP)** - Web application/API that allows players of pickup type sports to quickly create balanced teams for their sport, create custom sports, as well as create seasons and statistics tracking (React/Go/Postgres/Docker)
- WoTBoT** - Bot that plays World of Tanks, a large scale MMO PVP tank game. Utilized A* pathfinding, computer vision, real-time event handling, and human interaction simulation to play without suspicion (Java/XML)
- Alan** - A.I. to play and compete in a "Poker Squares" competition run by Gettysburg University. Used a combination of MinMax and Monte Carlo algorithms to predict best moves based on an initial variable scoring system (Java)
- Ambiled** - Dynamic RGB LED lighting for a desktop computer. Used computer vision and set LEDs based on the screen's image in real-time. LEDs Driven by an Arduino, dynamically controlled with desktop application (Java/Processing)