

ROSS KOEPKE

koepke@gmail.com • 734-474-1712

B.S. Chemical Engineering, Michigan Technological University

B.S. Computer Science, University of Houston - Expected Dec. 2021

High Performance Computing Courses from the Hewlett Packard Enterprise Data Science Institute

Linux • GCP • AWS EC2 • SQL • C • C++ • Python • HTML/CSS/JavaScript • Julia • Project Management

PROFESSIONAL EXPERIENCE

Technical Leader **PLI General, Houston, TX** **Oct. 2018 – May 2019**

Technical lead on 5,500 I/O point migration from legacy codebase

- Solely responsible for all reverse engineering of embedded controllers.
- Built a custom re-usable Python tool to parse ICS Triplex source code, graph the complete network of I/O points using NetworkX, and automate new code generation.
- Identified and raised concerns about large gaps in project scope early on, reducing technical debt.

Product Manager **ConveneMarket** **April 2017 – Oct. 2017**

- Managed team of four senior developers.
- Conducted detailed market research of similar existing platforms and summarized recommendations.
- Responsible for feature generation and pruning to meet business requirements for minimum viable product.
- Connected founder to champions and professional coaches experienced in startup financing and contract law.
- Performed full set of project manager duties in an Agile environment:
 - Sprint planning/tracking, backlog generation using VSTS.
 - Drove daily standups and frequently checked in on less-communicative team members.
 - Proactively escalated roadblocks by scheduling meetings between members to address shared issues.
- Successfully re-scoped and released a 1200 hour project in 850 hours as a working MVP proof of concept.

Systems Engineer **RoviSys, Houston, TX** **Mar. 2016 – Sep 2018**

Primary engineer on 1,200-device system migration

- Designed and commissioned interfaces and automation system for third party client.
- Developed approach and priorities for project through strong communication with the client.
- Reduced team workload by 60% using VBA and Python.
- Resolved client's primary concern by using machine learning methods to determine how to isolate groups of devices to perform on-site cutover without shutting down production.

Engineer for \$3.9MM system migration for pharmaceutical plant

- Provided two months of onsite support to verify that the new code is functionally identical to the existing system to avoid triggering regulatory validation requirements.

Automated modifications to code for series of oil pipeline terminals

Onsite construction manager for \$750,000 control systems upgrade at oil pipeline terminals

- Proposed and maintained project schedule. Ran all-hands meetings remotely and onsite to discuss timelines, identify roadblocks, and re-arrange work crews in order to avoid lost time.
- Validated contractor invoices, quotes, and estimates. Drove change order process for unplanned work.
- Managed all subcontractors (IT installers, electricians, builders, excavation) both remotely and from onsite.

Wireline Field Engineer **Schlumberger, Saudi Arabia** **Oct. 2014 – Mar. 2016**

- Led five-man team and managed >\$5MM of equipment, providing in-well services to Saudi Aramco for workover campaigns on active drilling rigs, both offshore and in remote desert areas.
- First person in the world to use a prototype sensor array (no available documentation or remote support). Successfully designed tests and analyzed data on the rig to optimize wellbore parameters.

CONTINUING EDUCATION / PROJECTS

Hewlett Packard Data Science Institute **Scientific Computing in C++** **Spring 2020**

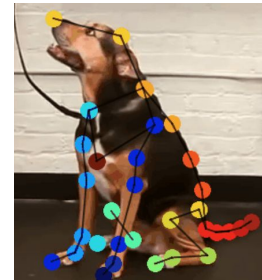
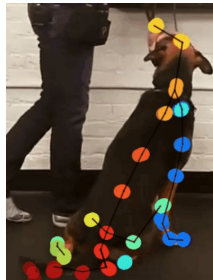
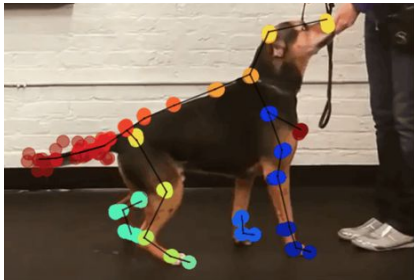
Hewlett Packard Data Science Institute **Scientific Programming in Python** **Spring 2020**

Hewlett Packard Data Science Institute **Data Science using Julia** **Spring 2020**

Personal Project **Dog Trick Trainer (Canine Pose Detection)** **Fall 2019**

Docker · GCP · Python · TensorFlow · Computer Vision · GCP · Deep Learning · IoT

- Reward dog with food whenever the dog performs well / improves its accuracy vs. the ideal position
- AI Pose Detection using DeepLabCut to detect when dogs are doing a trick like “Sit”, “Down”, etc.
- Used Google Edge TPU Board as well as Raspberry Pi Zero WH with Intel Movidius Myriad 2 (MA2450)
- Created and deployed custom Docker containers on GCP and Vast.ai, automatically taking advantage of temporary spot pricing to lower cost by transitioning ongoing workload to a cheaper machine.
- Transfer learning on pre-trained networks including ResNet and MobileNet.



Google Scholar **Udacity Frontend Nanodegree Challenge** **Jan 2018**

HTML · JavaScript (ES6) · CSS · JQuery

- Team leader for Houston students in the Google Scholar Challenge Course. Our final project was showcased as the best project of all teams world-wide.

Georgia Tech – ISYE6501X **Introduction to Analytics Modeling** **May 2018 – Aug 2018**

Machine Learning · Statistics · Business Analytics · Modeling and Simulation

- Masters-level course in machine learning and statistical modeling.
- This semester-long course provided very in-depth, practical and real-world exercises to select and use the correct methodologies among techniques included but not limited to: support vector machines (SVM), classification, clustering, principal component analysis (PCA), Bayesian modeling, exponential smoothing (ARIMA, GARCH), decision trees, Markov chains, k-mean, k-nn, Q-Q plots, probability distributions, graph analysis.
- Software used included Rockwell’s Arena Simulation Software, R, and Python.

Michigan Tech – Team Leader **AIChE Chem-E-“Car”** **Aug 2010 – May 2012**

C · Embedded Controllers

- 1st Place in Regional Competition 2012 | 2nd Place in Regional Competition 2011
- Managed team of 12 students to produce a hydrogen fuel cell vehicle with chemical control logic.
- Solely responsible for vehicle management system and programmed embedded controller using C.
- Produced 162 page engineering report containing all safety, operation, regulatory, and design information.