

# Stephen T. Knapp

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Portfolio: <https://github.com/skgithub14/StephenKnappPortfolio>

## EDUCATION

**Harvard University Extension School**, Cambridge, MA

Masters, Data Science (in progress), *GPA: 3.91*

Graduate Certificate, Data Science (completed)

**Rensselaer Polytechnic Institute**, Troy, NY

Master of Engineering, Dual: Industrial and Management Engineering & Mechanical Engineering

*Focus Areas: statistics and modeling*

Bachelor of Science, Mechanical Engineering

## PROFESSIONAL EXPERIENCE

**Data Science Graduate Student**

**Jan. 2020 – Present**

Harvard University Extension / Northeastern University, Cambridge / Boston, MA

- Optimized and validated a CART model in Python to 89% accuracy for predicting a community's risk for a COVID-19 outbreak; resulted in winning 2<sup>nd</sup> place in a university-wide data science competition.
- Published a *Medium.com* article with tableau visualizations on the impact of stay-at-home orders relating to COVID-19 infection rates in the US.
- Produced a *YouTube* presentation on the optimization of hyperparameters for an auto-encoder (AE) neural network which was applied to forecast a multi-variate time series.
- Applied exploratory data analysis (EDA), feature generation, variable transformation, and variable selection to develop a stable model that determined a device's location based on Wi-Fi signal strength.

**Assistant Superintendent**

**May 2019 – Oct. 2019**

Turner Construction, Buffalo, NY

- Tracked project deliverables specifically for HVAC equipment and responsible for site safety and logistics.

**Engineering Project Manager**

**Oct. 2017 – Apr. 2019**

Safran Seats USA LLC, Gainesville, TX

- Managed 25 aircraft seating design and manufacturing projects from sale to delivery through application of project management principles and the creation of a work break-down structure.
- Leveraged database queries and analytics to clean and explore data packages sent to our customers to identify potential improvements; implemented system controls that resulted in 100% on-time submission.
- Selected by VP of Engineering to lead a performance baseline study on engineering processes; applied lean six sigma statistical techniques and produced actionable insights for management.

**Operations Officer**

**Mar. 2017 – Sep. 2017**

US Army Corps of Engineers, Ft. Polk, LA

- Responsible for managing the training and operations database for a 500-person organization.

**Executive Officer**

**Feb. 2016 – Feb. 2017**

US Army Corps of Engineers, Ft. Polk, LA

- 2nd-in-command of 100 people with 5 direct reports; charged with logistics, maintenance, and engineering operations; superior performance in this role led to the organization's selection for deployment.
- Instituted a data driven approach to the maintenance program of 75 vehicles; resulted in an increase of our equipment's operational readiness rate from 44% to 92% over the 6 months post-implementation.

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## Platoon Leader

Oct. 2014 – Jan. 2016

US Army Corps of Engineers, Ft. Polk, LA

- Lead a group of 40 Soldiers with 5 direct reports; charged with supporting operational units with engineering support in an austere and resourced constrained environment.
- Analyzed GIS data of significant enemy acts (SIGACTS) and terrain to determine high risk areas.

## Base Engineer

Sep. 2012 – Sep. 2014

US Army Corps of Engineers, Ft. Polk, LA

- Planned and executed a \$1.4 million project to improve base protection.
- Designed and constructed a road and bridge to allow access for patrols and logistics resupply.

## SKILLS

### Programming and Applications

Statistical Software: R, Python, Matlab

Big Data / Databases / Cloud Computing: h2o / SQL / AWS & GCP

Machine Learning: Neural Networks in PyTorch, TensorFlow & Keras

Data Visualization & Communication: Tableau, GGPlot2 & MS PowerPoint

Version Control: Git

General Use: MS Excel & C++

### Statistical Analysis and Modeling

Design of Experiments and Hypothesis Testing

Data Cleaning & Data Exploration

Feature / Variable Selection

Modeling: Regression Analysis, KNN, SVM/SVR & Classification Trees

Cluster Analysis & Associations

Time Series Analysis

### Soft Skills

Strong communicator and effective presenter of technical information to a variety of audiences.

Experienced project manager and detail-oriented planner who gets results.

Pragmatic leader, loyal follower & collaborative team member.

## PATENTS, AWARDS, AND CERTIFICATIONS

Northeastern University Data-athon 2<sup>nd</sup> Place: *COVID-19 Outbreak Predictor* (submitting for publishing), 2020

Lean Six Sigma Green Belt, Syracuse University, March 2018

Project Management Professional (PMP), June 2016

Patent: *Methods of Leveling Ink on Substrates Using Flash Heating & Apparatuses Useful in Printing*, May 2012

de Fleury Medal (Steel), Army Engineer Association, 2017

## ORGANIZATIONS AND VOLUNTEERING

Open Data Science Conference (ODSC) Boston

Project Management Institute (PMI)

Veterans of Foreign Wars (VFW)