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K. Ryan Harper

Data Scientist Bringing Mixed-Method Research Solutions to Business Technology

Tools: Python (sklearn, statslab, nltk), R (statsr, ggplot), SQL (postgresql), Excel, JS, graphviz, Spark, shell scripting
Platforms: Linux, Mac, PC, Docker, plotly, Chartjs, AWS, Matlab
Pipeline: data architecture, querying, preprocessing, analysis, predictive modeling, presentation, visualization
Specializations: ETL, supervised/unsupervised learning, forecasting, natural language processing, big data
Professional: academic research and writing, project management, trilingual

Work History

Data Science Consultant   *12/18 - Present*
via Upwork.com
- Ingest, clean, and process data provided by the client while performing exploratory data analysis
- Weekly check-ins with clients to answer questions and to make sure projects are meeting expectation

Program Assistant & Office Assistant   *12/16 - 04/17*
International Special Programs, PSU, Portland, OR
- Coordinated with teachers, host family, program organizers, and tour guides to solve logistical issues

English Instructor   *03/13 - 07/17*
GoFluent, Portland, OR
- Hosted 90-minute workshops for business ESL on team management and persuasive communication
- Taught vocab, grammar, and pronunciation to employees in senior level positions at international companies

Graphic Design Intern   *01/12 - 11/12*
PNW Tax School, Beaverton, OR
- Front-end graphic design for website (HTML, JS, CSS)
- Video post-production edits of tax education videos (Adobe software)

Junior High School and Elementary School English Teacher   *08/08- 08/11*
Japanese Exchange and Teaching Program, Kamiichi, Toyama, Japan
- Employed very strong multi-tasking and problem-solving skills every week: Created materials, wrote tests, graded work, taught 18-25 classes, studied Japanese, and prepared students for speech competitions

Recent Projects

Data Science Coop Platform
Currently building remote containers with postgresql, Docker, and AWS for community-based big data analytics

Bosch Manufacturing Network Visualization
Designed directional graphing algorithm for visualizing Bosch's manufacturing line according to failure rate

PDX Bike Accident Time Series Forecasting
AR, ARIMA, SARIMAX modeling and visualizations of Portland bike accidents with 2017 accident forecasting

ETF Stock Forecasting
Used auto regressive models to predict ETF stocks for 2017 using data from 2012-2016

Community Projects

DataOps Lead Contributor (*Nectar Collector*)

Portland, OR   *11/18 - Present*
- Created postgresql, jupyter, Docker containers remote hosted on DigitalOcean droplets and accessed by SSH
- Coded crawlers for Reddit and Twitter pushed to postgresql database in Python and SQL
- Data science: forecasting, network/dashboard visualization, natural language processing, big data framework

Contributor (Portland Data Science Meetup)

Portland, OR   *07/18 - Present*
- Innovated, scraped, and cleaned OCR Historical Chinese Character data set for image analysis unit
- Co-hosted Data Science Meetup for Image Analysis of Historical Chinese Characters

Participant (Portland Data Science Meetup)

Portland, OR   *01/18 - Present*
- **PDOT Forecasting**: Completed predictive linear regression model for 2016 fatal car accidents
- **Portland Trimet:** Created data visualizations of trends in trimet stop delays per route
- **US Natural Disaster Patterns:** Created geoplots of weather patterns to find natural disaster hotspots
- **Sector ETF Forecasting:** 2017 ETF forecasting using macroeconomic indicators and trend analysis

Contributor (GapML)

Portland, OR   *07/18 - 12/18*
- Developed tutorial using data set in Keras and GapML
- Face-to-face meetings, unit testing with pytest, pull requests, discussions on improving algorithms

Hosted Workshops

Image Analysis of Chinese Characters (Portland Data Science Meetup)   *11/18 - 12/18*
- Presented on image analysis, the Chinese language, and group project organization strategies

Bike Accident Forecasting (Thinkful)   *10/18*
- Presented capstone of time series regression analysis of bike accidents to Thinkful students
- Provided technical explanation of methodology, hyperparameter tuning, and scoring

Data Science in ESL (Thinkful)   *06/18*
- Presented on model-based predictions of first language (Chinese/Japanese) derived from English syntax

Education

Data Science Certificate Program   04/18 - 10/18

Thinkful
- Data Science capstones: Inferential analysis, supervised, unsupervised, reinforcement learning, forecasting
- Mentored by data science professionals in the industry to apply work-appropriate methods to data science

Full Stack Certificate Program   11/17 - 03/18

PDX Code Guild
- Created full stack app in Django with postgresql database hosted by AWS (Python, HTML, JS, CSS, SASS)

MA TESOL

Portland State University   08/15 - 06/17
GPA: 3.89/4.0
- Courses: Research and Design, Methods, Statistics, Syntax, Phonetics, Phonology, Cognitive Linguistics
- ERW Research Paper on international student motivation and curriculum design MA project