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K. Ryan Harper

Career Objective

As an educator transitioning to data science, I look forward to bringing my mixed-method approach used in academia to business technology. I employ strong background research and comprehensive data exploration techniques to contextualize predictions gleaned from forecasting, inferential modeling, and network visualizations.

Skills

Tools: Python (sklearn, statslab, nltk), R (statsr, ggplot, bbplot), SQL (Postgresql, sqlite), Graphviz, Spark, SSH, Excel, Bash
Platforms: Docker, OS (Linux, Mac, PC), Plotly (visualization used in alteryx), AWS and DigitalOcean, Orange (like Tableau)
Pipeline: data architecture, querying, data preprocessing, inferential analysis, predictive modeling, presentation/visualization
Specializations: reinforcement/supervised/unsupervised learning, forecasting, NLP, big data, data architecture, data mining
Professional: academic research and writing, project management, on-site/remote communication skills, trilingual

Financial Projects

Blockbuster Movies Gross Profits Analysis by Genre
Innovated process and implemented model for maximizing profits of blockbuster movies via genre analysis

ETF Stock Forecasting using Macroeconomic Indicators
Used macroeconomic data and an AR regression model to predict ETF stocks for 2017 using data from 2012-2015

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

Community Projects

NLP and DataOps Lead Contributor (Thinkful Curriculum Project)
Portland, OR *11/18 - NOW*

- 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
- Working with a small team to develop our plan for a sentiment analysis model useful for monitoring product trends
- Data science approach: forecasting, graph analysis, natural language processing, big data, dashboard visualization

Contributor (Portland Data Science Meetup)
Portland, OR *07/18 - NOW*

- 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 - NOW*

- **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 (Gap-CV)
Portland, OR *07/18 - 12/18*

- Developed notebook tutorial for pushing OCR data set into Keras NN with Gap-CV
- Weekly 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) *10/18 - 12/18*

- Co-hosted four meetups at Portland Business Accelerator with 20-40 weekly attendees
- Gave introductory presentations on image analysis, the Chinese language, and group project organization strategies

Bike Accident Forecasting (Thinkful) *10/18*

- Presented capstone to 10 Thinkful students on time series regression analysis of bike accidents in Portland, Oregon
- Answered technical questions about methodology, hyperparameter tuning, scoring, and model selection

Data Science in ESL (Thinkful) *06/18*

- Presented capstone on using data science for English language learning applications
- Model-based predictions of students' first language (Chinese/Japanese) derived from English language syntax structure

Work History

Program Assistant & Office Assistant *12/16 - 04/17*

International Special Programs, PSU, Portland, OR

- Curriculum design for a new course: background research, competitive analysis report, interviews, lesson design
- Coordinated with teachers, host family, program organizers, bus drivers, and tour guides to solve logistical issues

English Instructor *03/13 - 07/17*

GoFluent, Portland, OR

- Lead 90-minute workshops for business ESL on team management, persuasive conversation, and business presentations
- 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 and JS)
- Created weekly Tax School newsletter (layout, content, design)
- Studied tax preparation forms and tax law to better inform my projects with PNW Tax School

Junior High School and Elementary School English Teacher *08/08- 08/11*

Japanese Exchange and Teaching Program, Kamiichi, Toyama, Japan

- Designed and implemented English grammar lessons for 1st-9th grade students (18-20 classes each week)
- Employed very strong multi-tasking and problem-solving skills every week: Created lesson materials (that are still in use), wrote tests, graded work, taught classes, co-taught classes, taught at five remote located elementary schools, studied Japanese, studied pedagogy, and prepared students for high school exams/speech competitions

Education

Data Science Certificate Program 04/18 - 10/18

THINKFUL

- Completed 5 Data Science capstones using inferential analyses and supervised/unsupervised/reinforcement learning
- Mentored by a data science professional in the industry to learn and apply work-appropriate methods to data science

Full Stack Certificate Program 11/17 - 03/18

PDX CODE GUILD

- Applied JS, Python (and Django), HTML, CSS, and Github to complete group and individual work situations
- Created full stack (language learning website) app with PostgreSQL database hosted by AWS

MA TESOL

PORTLAND STATE UNIVERSITY 08/15 - 06/17

GPA: 3.89/4.0

- Core Topics: Research and Design, Statistics, Syntax, Phonetics, Phonology, Cognitive Linguistics
- Completed an ERW Research Project: Identify zones of influence in ESL for students from the middle east
- Completed a Master's Project: Background research informed curriculum design for ISP at PSU
- Specialized in curriculum assessment using research and assessment tools