Nick Kunz

Data Scientist

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Skills

Machine Learning, Statistics, Analytics
Data Collection, Wrangling, Pre-Processing
Version Control, DevOps, Deployment, Testing
Sampling Methods, Optimization, Imputation
Forecasting, Financial Modeling, Economics
Geographic Information Systems (GIS)

Languages

Scripting: Python, Bash
Statistical: R, Stata
Compiled: C/C++, Fortran
Database: SQL, NoSQL, Cypher
Typesetting: LaTeX, Markdown

Frameworks

Data Science: NumPy, SciPy, Pandas
Visualization: Matplotlib, Seaborn
Statistical Learning: SKLearn, XGBoost
Reinforcement Learning: Baselines
Deep Learning: Pytorch, TensorFlow

Deployment

DevOps: Git, Docker, Kubernetes, CI/CD
Databases: SQL Server, SQLite, Neo4j
Web Services: Flask, Gunicorn, Nginx
Web Automation: Selenium, Puppeteer
Cloud Platforms: Azure, AWS
Security: OWASP ZAP, STIGs

Software

Development: VS Code, RStudio, Jupyter
Geospatial: ArcGIS, QGIS, OSM, Leaflet
3D Modeling: Rhino, Grasshopper
Design & Illustration: Adobe Suite
Financial Modeling: Excel, Macros
Studio & Live Audio: Logic, Protools

Prototyping

Project Management: Agile, Scrum
Sensors & Hardware: Arduino, Rasp. Pi,
Electrical: Soldering, Wiring, Safety
Ideation: Drawing, Sketching, Storyboarding
Analogs: Hand Drafting, Physical Modeling

Awards

Systems Engineering Fellowship, 2022
Distinguished Alumni Award, 2016
AmeriCorps Education Award, 2014
Dingwall Foundation Scholarship, 2012
Appraisal Institute Scholarship, 2011
Herberger Institute Scholarship, 2010
Study.net Foundation Scholarship, 2010

Experience

Deloitte — Seattle, WA 2021 - 2022
Senior Data Scientist

Technical lead on the development of machine learning services deployed into production for grant funding and administration in clinical research and public health. Detailed analyses of PubMed Knowledge Graph utilized for marketing managed services in support of awarded contract for research support.

Microsoft — Redmond, WA 2020 - 2021
Data Scientist

Developed performance metrics, methodologies, and models into production ready prototypes for the Integrated Visual Augmentation System (IVAS) to improve performance and safety of Infantry units in the US Army through Microsoft's HoloLens technology and its mixed reality training environment. *Contract: Aquent.*

Pacific Prospecting Group — Seattle, WA 2017 - 2019
Data Scientist

Developed proprietary prediction systems to automate 'hopping' between hashing algorithms for maximizing cryptocurrency mining revenue. Assisted with GPU local cluster infrastructure development and collaborated with Verilog developers on FPGA bitstream development.

Brawner & Company — Snoqualmie, WA 2016 - 2017
Development Analyst

Provided consulting services and financial modeling for tax-credit equity generating real estate investments. Lead detailed analyses utilizing statistical modeling. Automated a reconciliation system for operating cost budgets totaling over $2.7M annually. Financial forecasts used in capital improvements totaling over $30M.

Education

Cornell University — Ithaca, NY 2027
Doctor of Philosophy, Systems Engineering
Dissertation: In-Progress

Columbia University — New York, NY 2019
Master of Science, Urban Planning, Urban Analytics
Thesis: Unsupervised Learning for Submarket Modeling: A Proxy for Neighborhood Change

Harvard University — Cambridge, MA 2012
Non-Degree, Urban Planning
Capstone: Fenway-Kenmore Comprehensive Planning & Finance

Arizona State University — Tempe, AZ 2012
Bachelor of Science (Hons.), *summa cum laude*, Housing & Urban Development
Thesis: Realizing Interactive Architecture: A Driver of the Knowledge Economy

Software

SMOGN: Synthetic Minority Over-Sampling Technique for Regression with Gaussian Noise 2020
Github [Link] PyPI [Link] Kaggle [Link]

A novel pre-processing algorithm designed to address imbalanced data for regression problems. Conducts over-sampling with traditional interpolation, as well as with the introduction of Gaussian noise. Selects between the two over-sampling techniques by the KNN distances underlying a given observation.

NestedHyperBoost: Nested Cross-Validation for Bayesian Optimized Gradient Boosting 2020
Github [Link] PyPI [Link]

Unifies Nested K-Fold Cross-Validation, Bayesian Hyperparameter Optimization, and Gradient Boosting. Designed for rapid prototyping on small to mid-sized data sets. Quickly obtains high quality prediction results by abstracting away tedious hyperparameter tuning and implementation details in favor of usability and implementation speed.

Military

US Army, 75th Ranger Regiment — Fort Lewis, WA 2015 - 2016
Infantry

Served in support of US Special Operations in the Global War on Terrorism as a US Army Ranger. Developed deep interpersonal skills related to leadership, problem-solving, perseverance, and teamwork. Mission focus dedicated to airfield seizures, direct action raids and ambushes. *Discharge: Honorable.*

US Army, 1st Special Warfare Training Group — Fort Bragg, NC 2014
Special Forces Candidate

Training and indoctrination assignments include: US Army Ranger Assessment and Selection Program, US Special Forces Assessment and Selection, US Special Forces Preparation and Conditioning, US Army Airborne School, and US Army Infantry School.

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