Nick Kunz

Data Scientist

Location: Seattle, WA
Mobile: +1 (602) 710-8608
Email: nick.kunz@me.com
Website: nickkunz.com

Skills

Analytics, Statistics, Machine Learning
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
Typesetting: LaTeX, Markdown

Frameworks

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

Deployment

DevOps: Git, Docker, Kubernetes, CI/CD
Databases: SQL Server, PostgreSQL, SQLite
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

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

Microsoft — Redmond, WA 2020 - 2021
Data Scientist

Developed performance metrics, methodologies, and production ready prototypes for the Integrated Visual Augmentation System (IVAS). Worked closely with an interdisciplinary team of researchers, engineers, and domain experts to improve the readiness, performance, and safety of Infantry units in the US Army through Microsoft's HoloLens technology and its mixed reality training environment.

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

Developed proprietary prediction systems for commercial scale high performance computing allocations. Applied time-series analyses with universal function approximators 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 on client facing strategy and financial modeling for tax-credit equity generating real estate investments. Lead a detailed lease-up and operating cost analysis utilizing multi-level statistical modeling. Automated a reconciliation system for operating cost budgets totaling over $2.7M annually. Financial forecasts used in asset valuation, equity syndication, and debt origination for capital improvements totaling over $30M.

bcWORKSHOP — Dallas, TX 2013 - 2014
Fellow

Conducted a novel county-wide geospatial analysis of children's asthma rates utilizing advanced GIS to identify 2 strategic subject sites for an indoor air quality pilot program. Served as a committee member in a multidisciplinary collaborative with physicians, public health administrators, policy experts, and architects to develop environmental policies to improve the lives of over 60,000 children that suffer from debilitating asthma in Dallas County.

Education

Columbia University — New York, NY 2019
Master of Science, 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*
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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