Sean Hartrich

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OBJECTIVE

To bring my analytic, programmatic, and problem solving skills to an engineering role with an organization that values innovation and fosters community.

EXPERIENCE

Data Analytics Specialist — Aug 2017 – Present
Coldwell Banker Residential Brokerage - Deerfield, IL

Designed Python report generating platform to automate and customize internal reporting. Developed experience-based, quantitative productivity expectations for 200+ full-time employees (FTEs). Conducted time and motion study to determine best closing procedure practices to revise training protocol. Reduced commission processing staff needs by 15%. Authored ad-hoc reports to senior leadership including CEO and CFO.

Operations Data Analyst Intern — May 2017 – Aug 2017
Coldwell Banker Residential Brokerage - Deerfield, IL

Spearheaded automation for escrow roles using Python and VBA algorithms. Redesigned internal performance tracking and delivered informative, interactive dashboards for multiple KPIs. Restructured and consolidated central processing reporting for all 27 US companies. Engineered predictive analytics model revising expansion recruitment needs. Optimized and implemented staffing resource models for centralization to determine when to hire/train 128 new FTEs. Enhanced forecasting models for seasonal and temporary labor planning.

Operations Data Analyst Intern — May 2016 to March 2017
U.S. Venture - Appleton, WI

Streamlined weekly and monthly site performance reports with regression analysis. Performed comprehensive analysis of power utilization resulting in significant (~$100k/year) tax savings. Restructured site service protocol and data management for 54 North American locations after conducting a time and motion study. Provided corrective actions for CNG equipment and used quantitative analysis to review changes. Modeled and optimized equipment lubricant and electrical consumption by forecasting demand.

EDUCATION

B.S. Industrial and Systems Engineering, *Georgia Institute of Technology* — *May 2018*

SKILLS

Software/Coding:
- Python
- SQL
- Java
- JavaScript
- HTML5
- VBA
- Linux fundamentals
- Version Control
- Tableau

Favorite Libraries:
- Data analytics - Pandas
- Optimization - SciPy
- Web apps - Flask/Django
- Machine Learning - Sklearn
- Computing - NumPy
- Graphing - Matplotlib
- Image manipulation - Pillow
- Web scraping - Scrapy
- HTTP - Requests

ISyE Concepts:
- MS Excel expert
- Regression Analysis
- Forecasting
- Resource Modeling
- Predictive Analytics
- Quantitative Analysis
- Simulation Design
- Linear Modeling
- Six Sigma
- Time and Motion Studies

UNDERGRADUATE RESEARCH

Friedrich-Alexander-University Erlangen-Nürnberg Discrete Optimization Open Research Challenge:
Used python/data analytics to redesign southern Germany train schedule (reduced network electricity consumption 8%)

MAJOR ACADEMIC PROJECTS

- **Senior Design with Nolan Transportation Group:** Collaborated with team of 7 other students to design a real time LTL/drayage ride-sharing algorithm pairing mechanism. Extensive Python coding to merge on-route, compatible partial loads into full truck loads. $600,000 annual cost savings
- **Georgia Optimal Energy Portfolio:** Co-developed a model for Georgia energy infrastructure based on emission standards, expected production costs, etc. with Xpress Suite
- **Transportation Network Linear Model:** Directed team to implement linear modeling (coded via Xpress Suite) to optimize a trucking company's optimal 10 year asset plan
- **Trains Relational Database:** Used Python and SQL to design and code a functional commercial train network system (similar to Amtrak); functional booking and train assignment; functional GUI user interface

Learn more about me on my website: https://shartrich.github.io/