Alexander Vandenberg

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Education

IBM Data Analytics Professional Certificate, by IBM on Coursera   *Mar. 2024*
Courses: Excel Basics, Data Visualization and Dashboards with Excel and Cognos Analytics, Python for Data Science,
    Python Project, Databases and SQL for Data Science, Data Analysis with Python, Data Visualization with Python

Northeastern University, Boston, MA   *Dec. 2023*
Bachelor of Science in Mechanical Engineering, Minor in Mathematics
GPA: 3.92
Courses: Matrix Methods for Data Analysis and Machine Learning, Introduction to Programming with Data, Probability
    and Statistics, Measurement and Analysis, Mechanical Engineering Computation, System Analysis and Control
Activities: AerospaceNU Simulation, American Society of Mechanical Engineers, Club Spike Ball, Intramural Softball

Google Data Analytics Professional Certificate, by Google on Coursera   *Aug. 2022*
Courses: Ask Questions to Make Data-Driven Decisions, Prepare Data for Exploration, Process Data from Dirty to Clean,
    Analyze Data to Answer Questions, Share Data Through the Art of Visualization, Data Analysis with R Programming

Skills

- Proficient in Python, SQL, Power BI, Tableau, Cognos Analytics, Excel, R, HTML, VBA, MATLAB, and C++
- Analytical problem solving, technical presenting, teamwork, time management, and communication

Work Experience

Northeastern University, Boston, MA   *Sep. 2022 – Dec. 2023*
Mechanical Engineering Tutor

- Tutored students in Measurement and Analysis, Fluid Mechanics, Dynamics, Thermodynamics, and Statics
- Boosted a student's grade in Thermodynamics from F to C
- Offered advice related to finding co-ops, on campus employment, and class registration

Eemax/Rheem, Waterbury, CT   *Jan. 2022 - Jul. 2022*
Mechanical Engineering Co-op (Innovation, R&D, NPI, QA)

- Performed IP research and contributed to multiple potential patents, including "Insulated Tank with Diaphragm,"
    "Water Heater Inductive Charging," "Cotton Tablet Leak Stop," and "Hydrogen Powered Water Heater"
- Created SolidWorks flow simulations to validate and improve new concepts for tankless electric water heaters
- Redesigned the flagship heater core to improve quality and saved up to $35,000 by means of material reduction
- Improved the performance of the company's red tag data entry system by migrating it from C++ to Excel VBA

Project Experience

IBM Data Analytics Capstone Project   *Mar. 2024*
Technology Trend Analysis

- Utilized data from a 2019 Stack Overflow developer survey to determine the most popular and fastest growing
    programming languages, databases, platforms, and web frames
- Accessed and Queried data in Python using web APIs, Beautiful Soup web scraping, Pandas, and SQLite
- Created three dashboards in Cognos Analytics to visualize the ten most popular technologies, the ten fastest
    growing technologies, and survey demographics according to Stack Overflow developer data

Google Data Analytics Capstone Project   *Aug. 2022*
Cyclistic Case Study

- Compared casual and membership rider behavior by cleaning, compiling, and analyzing bikeshare data in Excel
- Developed a Tableau dashboard to display that casual riders are more likely to ride on weekends, have a 175%
    longer average ride duration, and ride 80% less frequently than membership riders
- Determined that advertising bikeshare memberships as an alternative way to commute to work would increase sales