

Tyler K. Akana

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Summary

Mechanical Engineer with experience in data acquisition, experimental testing, and engineering data analysis. Skilled in SQL, PowerBI and Excel for processing and visualizing performance trends of mechanical equipment. Strong background in thermal-fluid systems.

Experience

Engineering Analyst @ DB Engineering | 10 months

- Analyzed operational data from mechanical equipment on the main Microsoft campus to quantify maintenance related cost savings using engineering formulas.
- Designed, and maintained automated data pipelines from SQL to Power BI dashboards, ensuring performance monitoring.
- Performed system-level water use analysis for a 95-building Microsoft campus portfolio, integrating fixture inventories, meter data, and equipment usage to estimate demand and identify millions of gallons in projected water savings

Undergraduate Research @ Washington State University | 1 year | [College Portfolio](#)

Joint Heat Box Project: HVAC/Thermo-Fluids Design for Heat Stress Analysis of Agricultural Produce

- Designed, prototyped, and tested a mechanical–fluid system from concept through field deployment.
- Applied CFD and numerical analysis to size components for specified volume flow rates and pressure head.
- Built a wireless temperature monitoring system enabling real-time data transmission to an online API for remote system monitoring.

Design Project with PACCAR-Kenworth | 4 months | [College Portfolio](#)

Data Acquisition Project: Pneumatic Force Measurement System for Testing of Semi-Truck Hood Lifts.

- Led design and integration of pneumatic and control systems, selecting valves and components under MVP cost constraints and validating 600 lbf load capacity via SOLIDWORKS simulation.
- Developed a low-cost Arduino-based data acquisition system (<10% of commercial cost) and produced test procedures, schematics, and user documentation.

Skills

SOLIDWORKS (FEA, flow/thermal simulations), fluid system & load-bearing design; Prototyping/DFMA, 3D printing, CNC refinement; Project management (MVP, Agile, SCRUM); Data analysis & visualization with SQL, Power BI, Excel, Python, MATLAB, Arduino/C++

Education

Washington State University, B.S. Mechanical Engineering