Peter Vuyk

Mechanical engineer passionately furthering his data analysis and software development acumen
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WORK EXPERIENCE

Cummins Inc., *Test Engineer* | Jan 2019 – Present, **16 mo.**

- Managed thousands of hours of 24/7 operations to generate high quality diesel and natural gas engine data for 7 tests
- Developed Excel/VBA for processing, analyzing, and plotting large/numerous datasets containing raw engine and test cell sensor data. This tool included interactive features for manipulating plotted data and documenting test issues.
- Utlized
- Coordinated tests at local and offsite locations with mechanical support, IT, facilities, operations, and product validation teams via regularly presentations and organization-wide communications
- Automated engine testing with Cyflex and process/analyze collected data with Excel VB, GNU Bash, and Python
- Mentored new test engineers on best-practices in data analysis, communication, organization, and test planning

Cummins Inc., *Performance Modeling Intern* | May 2018 – Aug 2018, **3 mo.**

- Delivered MATLAB GUI for clustering customer engine data along with corresponding documentation for company use improving product validation by identifying representative customer duty cycles as well as anomalous product use
- Executed damage factor models to predict piston and cylinder head thermal fatigue life based on virtual sensors to compare and validate the abusiveness of engine testing and customer usage

Owens Corning/Ohio State University, *Undergraduate Researcher* | May 2017 – Dec 2018, **19 mo.**

- Sponsored by OC to identify feasibility of scaling architected structures for commercial/industry applications
- Designed experiments to elicit response of specimens during vibrational, impact, or static loading applications
- Simulated structural response of materials using FEA software. Utilized 3D printing for creating test specimens

ME 2900 Intro to Design, *Undergraduate Teaching Assistant* | Jan 2017 – Dec 2017, **12 mo.**

- Engaged undergraduate students in open lab in order to assist with electronics, controls, and programming aspects of lab and project coursework; Graded student coursework

DHL Express CVG Gateway, *Engineering Intern* | May 2016 – Dec 2016, **3 mo.**

- Developed Excel VB workbook and macro that centralizes and refines employee productivity data (hours, production, quality, etc.) and generates a daily email with actionable data visualization to management personnel
- Analyzed employee productivity trends across varying timespans to identify areas of strength/improvement

EDUCATION

The Ohio State University, Columbus, OH
Bachelor of Science in Mechanical Engineering
GPA: 3.74 / 4.00
Dean's List: 7/9 semesters

HONORS/AWARDS

- 2018 OSU Denman Research Forum – 3rd Place in Engineering: Mechanical and Aerospace category. Link
- 2018 Outstanding Leadership and Research Award granted by OSU Department of Mechanical and Aerospace Engineering. Link

QUALIFICATIONS & PROFICIENCIES

Proficiencies	MATLAB, Python, Excel, VBA, npm, JavaScript (NodeJS, ReactJS), Postgres, Inkscape, IrfanView
Familiarities	Git, Docker, MongoDB, Heroku, API Dev, SSMS, MySQL, C#, C/C++, Android Studio
Process Knowledge	Experimental Design, Presentations, Public Speaking, Written Communication, Technical Documentation, Budgeting and Scheduling

Publications

Vuyk, P., & Harne, R.L. (2020). Collapse characterization and shock mitigation by elastomeric metastructures. Extreme Mechanics Letters, 37, 100682. Link

Vuyk, P., Cui, S., & Harne, R.L. (2018). Illuminating Origins of Impact Energy Dissipation in Mechanical Metamaterials. Advanced Engineering Materials, 20, 1700828. Link