

UNIVERSITY of WASHINGTON

MECHANICAL ENGINEERING, DATA SCIENCE & MACHINE LEARNING

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OVERVIEW

As society's challenges grow more complex, engineers are using data science and machine learning — a process of building models to manage and describe big data sets and automate their analysis — as an increasingly important research tool. Yet to effectively apply machine learning to real-world problems, researchers need to understand how to work with nonlinear systems, in complex environments and with ever-changing factors.

These are areas in which mechanical engineers have decades of experience. Because of their diverse background and deep knowledge of systems, sensors, controls and fluids, mechanical engineers are playing a key role in shaping the future of data science. From medical device development to alternative energy research to improving and advancing manufacturing processes, researchers across UW Mechanical Engineering are expanding future applications of machine learning.



KEY RESEARCH AREAS

- Autonomous systems
- Diagnostics and prognostics
- Disease detection
- Fault detection in manufacturing
- Human and machine interaction
- Order reduction of dynamical systems
- Supply chain production and process improvement

