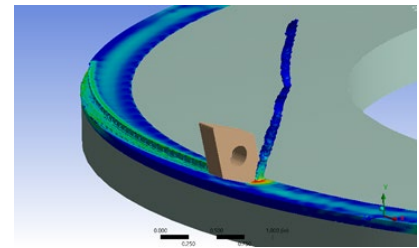




CONNECTICUT MANUFACTURING SIMULATION CENTER

A PARTNERSHIP OF UCONN, CONNECTICUT DEPARTMENT OF ECONOMIC COMMUNITY DEVELOPMENT AND ECONOMIC DEVELOPMENT ADMINISTRATION



High-fidelity Simulation of Machining

Innovation through Model-Based Definition and Beyond

What We Do The mission of Connecticut Manufacturing Simulation Center (CMSC) is to provide technical assistance to CT manufacturing community. Our core assets and capabilities include model-based definition through high-fidelity modeling and simulation which are strengthened by digital twinning and machine learning infrastructures developed by the Center experts. The U.S. National Science & Technology Council acknowledges that “*manufacturing can no longer be considered separate from the value chain—the system of R&D, product design, software development and integration, and lifecycle service activities performed to deliver a valuable product or service to market.*” CMSC possesses the enabling technologies to facilitate such advancement.

How We Do It As the manufacturing sector is going through the Industry 4.0 revolution, it is imperative for small- and medium-sized manufacturers (SMEs) to incorporate rapidly advancing digital technologies into product development and process optimization. While SMEs may not have relevant expertise or resources, CMSC can help

- Conducting structural/thermal/fluid analysis using state-of-the-art software and computing facilities
- Developing data-driven models and formulating optimization for complicated processes
- Creating machine learning methods for diagnosis and prognosis

These can benefit CT SMEs by providing the opportunities to model and access products and processes virtually and to avoid production of undesirable quality of parts and process disruptions and inefficiencies throughout product life cycles. CMSC was established in 2016 through a partnership with the United States Economic Development Administration, and will be providing technical assistance at no cost in Years 2021-2026. We cover various manufacturing and design processes including, but not limited to, Metal Forming, Metal Forging, Welding, Stamping, Casting, Spinning, Injection Molding, CNC Machining, and Composites Manufacturing.

SERVICES

- Assist small- and medium-sized manufacturing enterprises in Connecticut with digital manufacturing projects.
- Train manufacturing professionals and students to use modeling and simulation tools.

BENEFITS TO INDUSTRY

- Reduced product development cost
- Reduced time to market
- Increased productivity
- Improved product quality
- Manufacturing workforce development

CORE TEAM

Jeongho Kim, *Director*
Jiong Tang, *Associate Director*
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