



Faculty Member

Timken Foundation Center for Precision Manufacturing

Contact Information

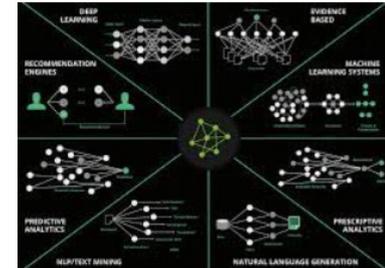


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Sample Research I: A.I. in Grinding

- Grinding is a dynamic system whereby infinitesimal changes in process variables produce disproportionate size, roundness, and surface finish responses.
- This research seeks to determine the feasibility of creating AI algorithms capable of (1) predicting ground work piece size, roundness and surface finish in near real time as well as (2) determining what process adjustments are required to control predicted values in near real time.



Research Interests

- Product design for optimum grindability
- High metal removal rate grinding for ferrous and nonferrous materials
- Grinding process capacity modeling
- Optimum grinder set up parameter modeling
- Artificially Intelligent grinding
- Grinding & machining fluid optimization
- Filtration system design

Sample Research II: Filtration of Mill Scale

- US companies generated over 500 million tonnes of mill scale waste in 2020
- Because cyclonic systems clog and tear standard practice remains shutting down hot forming operations to dredge mill scale from coolant tanks.
- I have developed a patent pending, in-process, filtration system capable of removing mill scale as it is being generated.

