Cover Page

Title: FMRG: Cyber: GOALI: Worker-Centric Manufacturing of the Future: Worker Understanding, Assistive Intelligence, and Big Data Analytics

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GOALI Partner: DeepHow Corp

Industry Advisory Board: The industry consortium members of Center for Aerospace Manufacturing Technologies at Missouri S&T.

Project Summary

Since 2020, NSF has been supporting a new research program, Future Manufacturing (FM), to addressing the challenges in the future of manufacturing. Our team aims at the Future Manufacturing Research Grants (FMRG) track in this program which allows up to $3,000,000 for up to four years. Our team submitted a proposal in May 2021, which aims to understand the human dimension of future manufacturing and create a worker-centric cyber manufacturing for the future, using human analytics, assistive intelligence, and big data analytics. The proposal received a mixed review from five reviewers, spanning from fair to excellent. Since the major concerns from reviewers are on the data collection and actual sensor implementation, we apply for this seed grant to purchase some sensors for human sensing, recruit some participants for data collection, and support a graduate student to annotate and process the dataset, leading to publishable research outcomes before our resubmission. The outcomes from this seed grant (sensors, data, and research publications) will enable us to provide more preliminary results on the human worker sensing and understanding, which will lay a solid foundation for our planned resubmission in spring 2023.