Gantry Assembly Design and Control for Metal Additive Manufacturing

Status: Filled

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Sponsor(s): Self-funded project & Gary Wang

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Project Description

Development and application of metal Additive Manufacturing (AM) have been growing rapidly in industry. It is predicted that the market for metal AM will reach US$24Billion in 2024. Current metal AM, however, is an expensive and unreliable process. For the widely-used Powder Bed Fusion technology, the high cost and process quality are mostly determined by a key component of a metal AM system, the gantry assembly and laser scanning system.

This project will aim at refining a patent-pending new gantry assembly design, prototyping the system, and building the assembly controller and its accompanying software.

This project team will work closely with a PhD student from the Product Design and Optimization Lab (PDOL) and a previous co-op student who worked on the gantry assembly design.

The student team needs to demonstrate pertinent skills to take the project and the strongest team will be chosen.