Walk-in interview for the position of JRF/SRF (06-09 months)

Application are invited for the post of Junior/Senior Research Fellow under the Newton-Bhabha Project (HEPI/1516/10) funded by Royal Academy of Engineering, London, for following project.

Project Title and Summary:

Development of a System that enables Embedded Intelligence in Manufacturing Equipment through Effective Data Gathering, Communication, Analytics and Decision Making Capabilities

The challenge is that most industries in India and even globally do not have all of their manufacturing equipment equipped with embedded sensors or external sensors for data acquisition. They rely mostly on manual data collection. Thus, one of the challenges for widespread adoption of smart manufacturing is to enable such legacy equipment with intelligence capabilities. A 'cyber twin' (a concept recently developed at IIT Indore) is a software representation of an actual machine tool that is able to replicate the machine behavior and can make decisions on behalf of the machine through embedded data analytics and optimization algorithms. The cyber twin will capture all relevant events of the machine either through manual (but standardized) data interface or through externally mounted sensors or embedded sensors. The proposed project will identify appropriate event information required from the machines for cyber twin development for different scenarios such as production scheduling, health monitoring and maintenance optimization. The use of machine tool communication standards like MTConnect, etc. will make such cyber twin concepts easily acceptable in the market. An effective communication algorithm forms the basis for operations planning within a complex network of production machines in any industry. In this project, we will develop algorithms for deciding on "what to communicate", "when to communicate" and "which cyber twins to communicate with". This is akin to the formation of 'social networks' for machines. Also, decision making algorithms will be developed based on the communication within the network. It is proposed to focus on maintenance (scheduled and predictive maintenance), production scheduling and inventory decisions in this project.

Essential Qualification: M.Tech in any branch of engineering

Desirable qualifications: Knowledge of statistics, probability, simulation, optimization, Industrial Engineering Concepts, programming skill.

Duration: 06 to 09 months (Candidates are expected to join immediately)

Stipend: JRF: Rs 30,000 per months or SRF: Rs 33,600 per month

Last date to apply: July 10, 2017 (please send Curriculum Vitae (CV) through email at bklad@iiti.ac.in only)

Walk-In Interview Date: July 11, 2017 (Reporting time 10 am)

Venue: PoD-1A, 204-B, Industrial Engineering Lab

IIT Indore, Khandwa Road, Simrol,

Opposite Simrol Police Station, Simrol, Pin: 453552