



University Of Pittsburgh

Swanson School of Engineering

Department of Mechanical Engineering and Materials Science

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Postdoctoral Position in Topology Optimization at University of Pittsburgh

There is an immediate opening for a postdoctoral researcher position in Professor Albert To's research group in the Department of Mechanical Engineering and Materials Science at University of Pittsburgh. Our group is seeking a highly motivated individual with a strong background in topology optimization to work on a new project. The project aims to develop multi-material topology optimization for creating interlocking joints considering (i) design for end-use constraints (weight, buckling, ductility), (ii) design for manufacturability constraints (residual stress, distortion, toolpath), and (iii) nonlinear material behavior. Surrogate modeling via machine learning or AI techniques and its integration into topology optimization will also need to be developed.

The candidate must have the following qualifications:

- A PhD in mechanical engineering, civil engineering, applied mechanics, or related fields
- Demonstrated expertise and research experience in topology optimization and computational mechanics or materials science
- Experienced programming optimizer in Python, C/C++
- Experienced in using ANSYS

Desirable criteria:

- Knowledge in metal additive manufacturing
- Demonstrated strong verbal and written communication skills
- Demonstrated ability to work as a team and independently
- Experience in mechanical testing and materials characterization
- Experience in using AM system

Position is now open until filled. Interested individual should submit a CV with contact information of three references to Professor Albert To (albertto@pitt.edu).

