Sergio Maconda

ITASCA Consulting Group, Inc.
An Itasca International Company

Senior Software Engineer

Expertise

Finite Element Analysis (FEA), High-Performance Computing (HPC), Computational Mechanics, Cloud Computing, Machine Learning, Additive Manufacturing, Computer-Aided Engineering (CAE), Deep Learning, Artificial Neural Networks (ANN), Mechanical Simulation, Message Passing Interface (MPI), CUDA, GPU, OpenMP, Structural Analysis, Software Development, Composites, International Management, Project Management, Operations Management, Operations Research, Optimization, Hard Disk Drives, Biomechanics, Soft Tissue, User Experience Design

Education

Doctor of Philosophy (Mechanical Engineering), 2007
University of Pittsburgh, Pittsburgh, PA, USA

Master of Business Administration, 2012
University of California at Irvine, Irvine, CA, USA

Professional Experience

2022 – Present	*Itasca Consulting Group, Minneapolis, Minnesota* *Senior Software Engineer*
2020 – 2021	*Rescale, San Francisco, California* *Senior Application Engineer / Solutions Architect*
2019	*Raylytyc, Leipzig, Germany* *Softwareentwinkler*
2014 – 2019	*Autodesk, San Francisco, California and State College, Pennsylvania* *User Experience Designer and Research Engineer*
2011 – 2014	*NEi Software, Westminster, California* *Senior Application Engineer and International Channel Manager*
2007 – 2009	*Western Digital, San Jose, California* *Principal Engineer*
2003 – 2007	*Ansys, Inc., Canonsburg, Pennsylvania* *Quality Assurance Engineer*

Project Experience

Deep Learning in Healthcare: Led the development of AI-based tools for medical image registration, segmentation and analysis.

High-Performance Computing in Additive Manufacturing Simulation: Developed an MPI version of a commercial additive manufacturing simulation code (Autodesk Netfabb).

Mesh-independent Cracking (MIC): Developed MIC finite elements that allow simulation of crack propagation (delamination and transverse matrix cracks) in composite materials independent of finite element mesh.