

Chief Software Architect

Expertise Engineering Software Development (C, C++, Fortran, *FLAC*, *FLAC3D*, *UDEC*, *3DEC*, *PFC*, *PFC3D*)

Education Ph.D. (Theoretical and Applied Mechanics), 2004
Cornell University

B.S. (Aerospace Engineering & Mechanics), 1992
University of Minnesota

Honors Harriet Davis Fellowship, Cornell University, 2001
Cornell Fellowship, Cornell University, 1999-2000

Professional Experience

	ITASCA Minneapolis
2010 – Present	Principal, Chief Software Architect
2004 – Present	Senior Software Engineer
1999 – 2004	Associate, Software
1992 – 1999	Software Engineer
1987 – 1992	Assistant Engineer

Project Experience

Conception, development and implementation of a new computational fluid dynamics (CFD) method for 2D incompressible viscous fluid around moving geometries; experimentation to discover the wing-interaction forces generated by dragonflies; creation and maintenance of a laboratory Linux network at Cornell University.

Assistance in the development and source control of ITASCA codes *FLAC* (Fast Lagrangian Analysis of Continua), *FLAC3D* (Fast Lagrangian Analysis of Continua in 3 Dimensions), *UDEC* (Universal Distinct Element Code), *3DEC* (3-Dimensional Distinct Element Code), *PFC2D* (Particle Flow Code in 2 Dimensions), and *PFC3D* (Particle Flow Code in 3 Dimensions) and provision of support for said codes. Development and maintenance of a software library that included user-interface methods and common numeric needs in a platform-independent manner; development or assistance in the development of continuum methods for solid mechanics, discrete methods for solid mechanics and sharp discontinuity in continuum methods for fluid mechanics.