

Dennis Cody

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Objective

Apply my experience in biomechanical research of the knee and Quality Assurance of the Pro/Engineer and Pro/Mechanica software as a Biomedical Engineer in a research and design environment.

Work Experience

Consultant

2003 – Present

- Contact model support in ABAQUS.
- Reviewed over 600 articles in scientific journals for relevant spinal surgery results (discectomy, lumbar fusion, vertebroplasty).

VA Palo Alto Rehabilitation Research and Development Center, Palo Alto, CA
2002

Biomedical Engineer

- Developed a new methodology for creating finite element contact model of human patella and femur cartilage based on magnetic resonance (MR) images of the knee using software tools including ABAQUS and TrueGrid.
- Assessed the role of elevated cartilage stresses on patellofemoral pain.
- Determined the conditions under which cartilage stresses can be accurately obtained assuming that the underlying bone is rigid.

Parametric Technology Corporation (PTC), Needham, MA; San Jose, CA

1995 –2000

Senior Quality Assurance Engineer

- Worked on 7 major and 3 minor releases of the 3D CAD software Pro/Engineer and 3D CAE software Pro/Mechanica.
- Wrote specifications and test plans for new functionality.
- Tested kinematics results, driver profiles, and 3-D mechanisms in Pro/Mechanism.
- Managed several Quality Assurance projects simultaneously, including performing initial testing of unit manager in Pro/Engineer and Materials with units in Pro/Mechanica.
- Tested installation of PTC software (Mechanica, Intralink, Pro/Engineer).
- Led team transition to Y2k compliant defect reporting database, and made significant contributions to standardize defect reporting for entire company.
- Participated in Continuous Improvement Teams for new hire orientation, Quality Assurance test plans, and the overall Quality Assurance process.

Skills

- Pro/Mechanica Motion, Pro Mechanica Structure, and Pro/Engineer, computer aided design (CAD) and analysis products of PTC
- Finite Element and Meshing software: ABAQUS, Patran, ANSA, TrueGrid
- C programming, object oriented programming
- Matlab and Mathematica
- Kinematics and Dynamics
- SIMM and SD/Fast, software for musculoskeletal modeling
- MS Office Products: Word, Excel, PowerPoint, Project, etc.
- UNIX and NT Operating systems

Education

M.S.	Stanford University	Biomechanical Engineering	2002	3.8/4.0
B.S.	Worcester Polytechnic Institute	Mechanical Engineering	1995	3.6/4.0

Curriculum Projects

- ***Delivery of Salubria™ Based Articular Cartilage Prosthesis (Stanford)*** - Worked in a team of four students in a two-term project with corporate sponsorship. Researched FDA requirements, investigated different delivery methods, designed surgical procedure, designed and built prototype tools to implant prosthesis.
- ***Assessing Role of Elevated Cartilage Stresses on Patellofemoral Pain (Stanford, Palo Alto VA)*** – Worked on an independent research project building CAD and finite element models from Magnetic Resonance (MR) images of knee. Poster presented at Third National VA Rehabilitation R&D Conference, Arlington, VA, February 10-12, 2002.
- ***Senior Major Qualifying Project (Worcester Polytechnic Institute)*** - GASCan II - Worked with two other students towards completion of three experiments contained in a canister launched aboard the space shuttle. Experiments studied fluid flow and combustion in micro-gravity and radio waves in the ionosphere. Three course equivalent project.

Honors

- Earned two Certificate of Excellence awards from PTC.
- Graduated from Worcester Polytechnic Institute with High Distinction.
- Lincoln Foundation Bronze award for project at Stanford University.

Foreign Languages

- French - Excellent written, sufficient oral