David J. Filipiak

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PROFILE

Experienced and professional biomedical engineer with a proven track record of exceptional project leadership and management. Possesses a diverse skillset including computational modeling and analysis resulting in increased output efficiency, decreased cost, and design validation. Core competencies include:

Product Design & Development	Project Management	Technology Commercialization
Tissue Biomechanics	Biomaterials	Computational Modeling
Fluid Mechanics	Strategic Planning	Stress/Fatigue Analysis

EDUCATION

CORNELL UNIVERSITY, College of Engineering, Ithaca, NY *May 2010*
Master of Engineering in Biomedical Engineering. GPA: 3.6/4.0
Concentration: Biomedical Mechanics and Biomaterials
- Awarded the 2009 Martin McVoy scholarship for academic excellence

JOHNS HOPKINS UNIVERSITY, College of Engineering, Baltimore, MD *Dec 2008*
Bachelor of Science in Chemical and Biomolecular Engineering. GPA: 3.0/4.0
Concentration: Interfaces and Micro/Nanotechnology
Minor in Entrepreneurship and Management
Concentration: Technology Commercialization
- Awarded the 2008-09 and 2009-10 Technology Fellowship Grants

EXPERIENCE

Lead Researcher/Engineer; Dr. Butcher Cardiovascular Developmental Lab *August 2009 – August 2010*
Biomedical Engineering Dept., Cornell University, Ithaca, NY
- Designed and developed a novel bioreactor to culture, condition, and test tricuspid prosthetic heart valves; manufactured several prototypes and plan to patent
- Saved significant time (~6 months) and money on development/testing via rapid prototyping and computational modeling
- Developed anatomically accurate, cell-seeded hydrogel replacement heart valves
- Observed several aortic heart valve replacement and coronary stent procedures at Guthrie Hospital

Lead Researcher/Engineer; Dr. Gracias Biomedical Microtechnology Lab *March 2007 – May 2009*
Chemical/Biomolecular Engineering Dept., Johns Hopkins University, Baltimore, MD
- Designed novel drug delivery containers and was lead author of the scientific paper "Hierarchical Self-Assembly of Complex Polyhedral Microcontainers", published in the Journal of Micromechanics and Microengineering

3D Biomedical/Microtechnology Animator *April 2007 – May 2009*
Institute for NanoBioTechnology (INBT), Johns Hopkins University, Baltimore, MD
- Created professional animations of several biomedical-related research projects; Animations were aired on the Discovery Channel, published in a scientific text, published on YouTube (11,000+ views), and won numerous awards

Electronic Device Salesman *August 2010 - Present*
PC Richard & Son, Newington, CT
- Ranked #2 (Nov, Feb), #3 (Dec), and #5 (Oct, Jan) in sales out of ~30 employees; #1 in multiple focus sales categories

Engineering Lab Instructor *January 2010 – May 2010*
Chemical Engineering/Chemistry Depts., Cornell University, Ithaca, NY
- Led discussions, facilitated collaboration, troubleshoot problems, provided expertise; Responsible for 45 students

RELATED COURSEWORK

- **Technology Commercialization Project (JHU):** Mock commercialized and wrote an extensive technology assessment report on a novel robotic surgery technology; Worked closely with surgeons, computer scientists, and engineers at JHU
- **Biomaterials Report (CU):** Wrote a review/assessment report on Medtronic Mosaic® heart valve biomaterials
- **Senior Product Design project (JHU):** Invented, designed, and mock marketed a novel hyperbaric oxygen therapy system to relieve symptoms of altitude illness; featured product in JHU Engineering Magazine

TECHNICAL SKILLS

- **Computing/Modeling**: Fluid-Structure Interaction modeling, Finite Element Analysis, Stress Analysis, Fatigue Analysis, and 3D Modeling; experienced with SolidWorks, Comsol, Fluent, 3ds Max, AutoCAD, MS Project
- **Laboratory**: Cleanroom operation, SEM imaging, knowledge in TEM/AFM imaging, CT scanning