

MARK SIVAK - INTERACTIVE ENGINEER

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EDUCATION

Northeastern University, Boston, MA September 2007 – Expected May 2009

Master of Science in Mechanical Engineering, QPA: 3.53

Honors: Awarded a Research Assistantship from the Mechatronics and Robotics Laboratory

Northeastern University, Boston, MA

September 2002 – May 2007

Bachelor of Science in Mechanical Engineering, QPA: 3.22

Honors: National Society of Collegiate Scholars, Excellence Scholarship, Engineering Peer Mentor

ACADEMIC PROJECTS

Design of Multiple User Virtual Environments for Rehabilitation (MUVER) Spring 2008 – Current

Primary Researcher/Designer, Master Thesis Research

- Combined video game design philosophy and telerehabilitation to create a novel stroke rehabilitation system
- Used both open and closed source software solutions to connect lab rehabilitation devices to virtual environments
- Developed new methods to allow for multiple users to interact in a virtual environment

Design and Implementation of Patient Specific Ankle-Foot Orthotic Devices Fall 2005 / Fall 2006

Head Modeler/Designer, Capstone Design

- Worked with a team of Senior Mechanical Engineering students on a novel process and product
- Learned how to use Rapid Prototyping Machines (SLA) and 3D scanners
- The project has been patented and the research is continuing at the graduate level

Shortfall Digital Spring 2007

Game/Engine Designer, Directed Study: Educational Game Design

- Worked with a diverse team to transform an educational board game to a streamlined digital game
- Created and balanced the video game engine using the board game features and engineering equations
- Presented this project at Games + Learning + Society and the Sandbox Symposium in summer of 2007

Analysis of User Input Designs for the Nokia N-Gage QD Fall 2004

Researcher/Author, Advanced Writing for the Disciplines

- Researched video game hardware and ergonomics to design a better input dynamic
- Wrote a major technical paper that included research, assessments, and recommendations

So you want to be an Engineer? Fall 2004 / Fall 2006

Programmer/Designer, Introduction to Engineering

- Created a Flash game to help students choose an engineering major at Northeastern University
 - Presented this game about engineering majors as a three time volunteer Engineering Peer Mentor
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PROFESSIONAL EXPERIENCE

Musiker Discovery Programs, Boston, MA Summer 2008 (June-July)

Professor, Fundamentals of Video Game Design

- Created a syllabus for an accelerated high school summer course
- Designed assignments, lectures, and projects to teach the foundations of game design

Lexitek Inc., Wellesley, MA Spring 2006 (Jan-June)

Mechanical Engineering Co-op

- Fabricated advanced adaptive optical equipment, prototypes, and supporting devices
- Worked in a clean room environment, optical lab, and machine shop on adaptive optics

Mercury Computer Systems Inc., Chelmsford, MA Spring 2004/2005 (Jan-June)

Mechanical Engineering Co-op

- Lead projects that started with CAD and were implemented in the lab as the chief mechanical engineer
 - Worked in an electronics lab and machine shop on high-end rugged computers and testing equipment
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COMPUTER SKILLS

Applications: ANSYS, AutoCAD, AutoDesk Inventor, Blender, Flash, GameMaker, LabView, LEGO DD, Maple, Matlab, Microsoft Office Suite, Photoshop, Pro Motion, Rapidform, Solidworks, Visual Studio. *Programming*: C#, C++, HTML, Java, OpenGL, Python.

HOBBIES AND INTERESTS

Real World Hobbies/Interests: Sports and games, especially Rugby, Scuba Diving, Hiking, trying new Foods and Wine, Video Games

Work Hobbies/Interests: Serious Games, AI, Procedural Generation, Virtual Worlds, Rapid Prototyping, Robotics, Input Devices