Rebecca Paz

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Objective

Entry level, early career role in Bioinformatics, Computational Biology, Software Development, and Biomedical Engineering.

Work Experience

Summer Intern, Imaging Core Technician

UMass Medical Center – MicroCT Imaging Core, Worcester, MA

May 2011 – August 2011

- Performed µCT scanning and post-scanning image analysis of CT sections.
- Executed non-destructive qualitative analysis of small animal bones for use in transgenic and knock-out mouse studies.
- Wrote semi-automated MATLAB script to aid with quantification of osteoclasts in histological slides.
- Created 16-bit color scheme with OsiriX to differentiate between low density bone, high density bone, and soft tissue, for use in any set of DICOM files.

Medical Physics Intern

Mayo Clinic Florida – Clinical Research Internship Study Program, Jacksonville, FL

June 2010 – August 2010

- Monitorization, reporting, statistical analysis and troubleshooting Quality Control (QC) issues during installation of Siemens 3 Tesla MRI equipment.
- Analysis of accuracy in radiation exposure meters (personnel badges).
- Analysis of radiation doses from Fluoroscopic and CT scan equipment, utilizing MS Excel statistical analysis spreadsheets.
- Introduction to Radiation Oncology Physics: Simulation and dosimetry.

Education

Bachelor of Science (B.S.), Biomedical Engineering, October 2012

Worcester Polytechnic Institute, Worcester, MA

Academic Projects

WPI Major Qualifying Project: Re-design of Skin Graft Culturing Device

August 2011 – May 2012

- Developed a cell image analysis system for skin graft immunohistochemical sections using MATLAB and CellProfiler software.
- Redesigned a research skin graft culturing device with the objective of improving the assembly/disassembly features and to maximize ease-of-use and time-efficiency.
- Reduced disassembly time of culturing device by over 400%.

Osteoporotic Bone Statistical Model through Chemical Decalcification

October 2010 – December 2010

- Collaborated on chicken bone preparation, mechanical testing with INSTRON equipment, and statistical analysis of sectional data utilizing MATLAB.
- Analyzed experimental data of calcified and decalcified bone using MATLAB and MS Excel for determination of cut-offs for osteoporotic levels and other features of bone mechanics.

Painless Waterproof ECG Electrode Design For Underwater Use

September 2010 – October 2010

- Researched, obtained, and applied waterproofing fabrics and materials.
- Collaborated on fabrication of waterproof electrode bandage.
- Modeled prototype in AutoCAD.
- Built a working prototype and conducted underwater testing.

Technical Skills

Software and Programming

Python, Django, HTML, CSS, MATLAB, SolidWorks 2010, LabView, SCANCO Medical, OsiriX, CellProfiler, MS Word, MS Excel, MS PowerPoint.

Hardware

INSTRON series of mechanical testing apparati, ECG equipment, SCANCO Medical MicroCT 40. Observed installation of Siemens MRI unit. Participated in troubleshooting of MRI installation.

Foreign Languages

Spanish (native fluency).

Continuing Education

- American Association of Physicists in Medicine, Annual Conference, June 18-22, 2010
- Biomedical Engineering Society, Annual Conference, October 24-27, 2012

Memberships

- Biomedical Engineering Society, Landover, MD, October 2012 - Present