National Science Foundation (NSF) Research Experience for Undergraduates (REU) Program

MedI X Site: Medical Informatics
DePaul University & Northwestern University

June 12th - August 18th, 2006
MedI X: Medical Informatics eXperiences in undergraduate research

Goals:

- promote the possibility of graduate studies for bright, talented undergraduates
- promote and encourage *interdisciplinary studies in Computer Science and Medical Informatics* to undergraduate students
Benefits of doing research at the undergraduate level:

- *participation as part of a team*
  - teams of two undergraduate students and one faculty mentor

Summer 2005: REU Participants
Benefits of doing research at the undergraduate level:

- **participation as part of a team**

  - work performed in research labs:
    - CTI Intelligent Multimedia Processing (IMP) lab
    - CTI Medical Imaging (MI) lab
    - Northwestern Imaging Informatics Center
Benefits of doing research at the undergraduate level:

• *active involvement with faculty mentors*
  
  - three computer science faculty mentors (two females) and one medical doctor mentor
  - weekly meetings with the mentor
  - mentor availabilities:
    
    Monday: Dr. Furst, Tuesday: Dr. Raicu, Wednesday: Dr. Dettori, Thursday: Dr. Channin, Friday: all mentors
Benefits of doing research at the undergraduate level:

- participation in current and interdisciplinary research

**MedIX Projects for Summer 2006:**
- Visualization techniques for medical data
- Volumetric segmentation
- Content-based medical image retrieval systems
- Machine learning approaches for texture-based segmentation
- Automatic detection of intensity spots in micro-array images
- Ontology development
- Accelerating visualization techniques
- User interface development
- Evaluation of segmentation algorithms
- Texture classification algorithms testing
Benefits of doing research at the undergraduate level:

- presentation, dissemination of results, rewards of publishing and attending conferences

  - Internal presentations:
    - Presentations at the Visual Computing Seminar (each Friday)
    - Mid-Program and Final program Presentations (July 11th and August 15th)

  - External presentations:
    - Conferences in the medical imaging field

- Research Publications
  - Conferences, journals
  - Summer 2005: 6 research papers


Benefits of doing research at the undergraduate level:

- great source of recommendation letters for graduate school
- glimpse into the life of a graduate student

Activities of the REU Program (Summer 2006):