Ranbel Sun

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EDUCATION

Candidate for S.B. in Electrical Science and Engineering Dec 2011
Massachusetts Institute of Technology (Cambridge, MA)

- Minor in Biomedical Engineering
- **GPA:** 4.7/5.0
- **Coursework:** Circuits & Electronics; Signals & Systems; Digital Systems Lab; Intro to Communication, Control, & Signal Processing; Probabilistic Systems Analysis; Quantitative Physiology; Instrumentation & Measurement for Biological Systems; Microelectronic Devices & Circuits; Magnetic Resonance Imaging

EXPERIENCE

Neuroscience Data Analyst Fall 2010
Massachusetts General Hospital (Boston, MA)

- Wrote MATLAB scripts to process and visualize EEG recordings from epileptic patients.
- Demonstrated link between cortical depth and spectral content of neural activity.

Video Surveillance Intern July – Aug 2010
MIT Lincoln Laboratory (Lexington, MA)

- Implemented and evaluated target detection and tracking algorithms in MATLAB.

Imaging System Developer June 2010
University of Alabama (Tuscaloosa, AL)

- Added 3-D functionality and improved LabView interface for an experimental Terahertz imaging system.
- Developed MATLAB code and GUI to process, display, and export data.

RF Management Intern Summer 2009
Boston Scientific – Cardiac Rhythm Management (St. Paul, MN)

- Tested electromagnetic compatibility and performance limits of implantable pacemakers and ICDs.
- Critiqued test methodology prescribed in industry standards and linked results to real world susceptibility.
- Compiled comprehensive written report and presented recommendations to senior staff.

Wireless Sensor Designer June 2008 – May 2009
MIT Media Lab – Changing Places Group(Cambridge, MA)

- Spearheaded hardware development for ubiquitous health monitoring project sponsored by the NIH.
- Collaborated in interdisciplinary team to enable accelerometer data streaming to mobile phones.
- Device is currently being used for research studies at MIT and Stanford.

TECHNICAL SKILLS

Programming: proficient in MATLAB, working knowledge of C, Verilog, Python
Software: MATLAB, LabView, Eagle PCB layout, ModelSim, Adobe Photoshop, MS Office/Open Office
Equipment: oscilloscope, function generator, logic analyzer, SMT soldering, thin film deposition (various)

LEADERSHIP/ACTIVITIES

Electronics Teaching Assistant Summer 2011
Johns Hopkins Center for Talented Youth (Carlisle, PA)

- Co-taught hands-on electrical engineering course to 36 gifted teenagers.
- Prepared class demos, supervised laboratory work and evening study sessions, and graded assignments.

PERSONAL

Awards/Distinctions: Tau Beta Pi Engineering Honor Society, Eta Kappa Nu EECS Honor Society, National Society of Collegiate Scholars, Digital Systems Lab - Technical Writing Award, AP Scholar with Distinction, National Merit Finalist, National Elks Foundation Scholarship
Languages: English (native), French, Mandarin Chinese
Interests: art, triathlons, piano, travel