UNIVERSITY of WASHINGTON | BOTHELL

ELECTRICAL ENGINEERING PROGRAM

2019 NSF Research Experiences for Undergraduates (REU): Next-Generation Health Monitoring Systems with Flexible Electronics, Novel Algorithms and Secure Communications.

June 16 – August 23, 2019

This Summer Research Experience for Undergraduate (REU) site, funded by NSF Division of EEC, focuses on advancing technologies for the development of reliable, low cost and comfortable health monitoring devices having features such as delivering real-time data over the internet for remote care and cloud processing.

Project Objectives

- Develop research skills by conducting interdisciplinary, collaborative, cutting-edge and accessible research.
- Enhance communication skills by disseminating research results through oral and poster presentations.
- Study advanced material in device fabrication, signal processing and data security.

Research Topics of 2019

- Acoustic simulation of cochlear implant hearing.
- Design and implementation of Doppler ultrasound heartbeat monitors.
- Filtering and classifying ECG signals.
- Extraction of fetal ECG (fECG) from maternal ECG (mECG)
- Secure communication of connected medical devices.
- Machine learning-based security in healthcare systems.

Activities

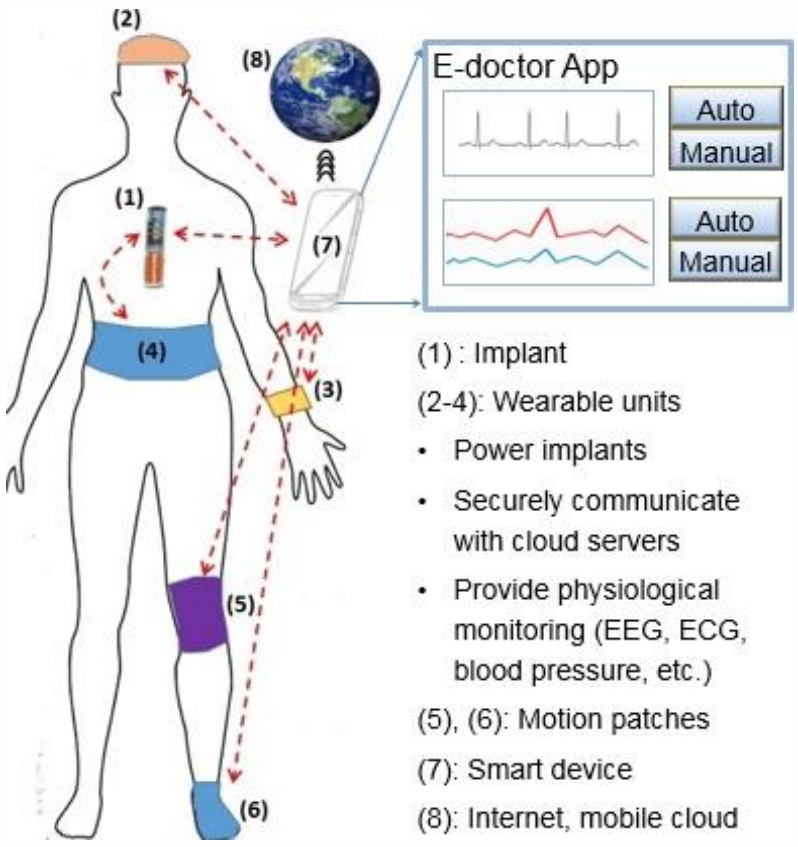
- Research work in device fabrications, signal processing or data security.
- Workshops on Professional development.
- Short courses on MATLAB for Signal Processing and Introduction to Cloud-based Visualization.
- Preparation of posters, papers and presentations.
- Seminar on graduate school preparation.

Eligibility

- U.S. citizens and permanent residents
- Electrical Engineering, Computer Engineering, Computer Science or related disciplines with 3.00 or higher GPA.
- Sophomore, Junior or Senior with background courses in electronics, signals and systems, and programming.

Application Process

- Include the following documents in a single pdf file. Recommendation letters can be emailed separately, if so preferred.
  - ✓ Application form obtained online.
  - ✓ Transcripts.
  - ✓ Two recommendation letters.
  - ✓ Personal Statement.
  - ✓ Resume
- Send the pdf file by email to eeREU@uw.edu
- For more Information, visit www.uwb.edu/ee/reu



Application Deadline

February 20, 2019.

Award Information

- **$5,000 stipend for 10 weeks.**
- **On-campus housing** (meal not included but kitchenware available).
- **Travel expense up to $500.**

Award Announcement

March 10, 2019.

Contact

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