Ping-Chia (Amber) Tsai

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EDUCATION

University of Washington, Seattle WA   September 2014 – June 2019 (Expected)
M.S./Ph.D. in Electrical Engineering
- GPA: Overall 3.88/4.0
- Coursework: Microcomputer Systems, Systems Programming, Artificial Intelligence for Engineer, Advanced Topics in Control System, Probability and Random Processes, Introduction to Synthetic Biology, Lab Methods in Synthetic Biology

National Taiwan University (NTU), Taipei, Taiwan   September 2010 – June 2014
B.S. in Electrical Engineering
- GPA: Overall 3.81/4.0; Major 3.86/4.0
- Coursework: Data Structure and Programming, Introduction to Computer Networks, The design and Analysis of Algorithms*, Mobile Phone Programming*, Advanced Statistics (I)*, Advanced Statistics (II)*, Advanced Digital Signal Processing*   (*): Graduate-level courses

SKILLS

Programming Proficiencies: C/C++, Python, Matlab, Objective-C, Ruby on Rails, HTML/CSS/JavaScript
Tools: Github, Heroku, Last.fm API, Node.js, MongoDB

HONORS & AWARDS

Grace Hopper Celebration (GHC) Scholarship Grant   July 2015
- Support women in computing for attending the GHC conference. The acceptance rate is 26 percent.

WORK EXPERIENCE

Teaching Assistant, University of Washington, Seattle WA   January 2015 – June 2015
- Held a two-hour review and lab demo session for 26 students every week; graded exams; held office hours

Developer Intern, Cardinal Blue, Taipei, Taiwan   September 2013 – June 2014
- Analyzed users' behavior of PicCollage, a photo app with over 60 million downloads, and visualized the data

SELECTED PROJECTS

Satellite Management and Control System (Microcomputer Systems)   Summer 2015
- Developed an embedded system, of which the goal is to mine minerals from asteroids with the Stellaris EKI-LM3S8962 system; utilized UML diagrams to reflect the dynamic and static aspects of the system
- The system is designed to be based on a real-time operating system (FreeRTOS) and to be able to collect and process the data from sensors, displaying information, using some of the data to control the peripherals for mining operations, make bidirectional remote communication via a simple web server and network interface

Genetic Counter Design, Klavins Lab, University of Washington   Spring 2014 – present
- Build CRISPR-based bistable switch, which forms the building block in synthetic genetic circuits
- Design genetic counter, which exploits the bistable switches, XOR gates, and CRISPR-based transcription factors to behave like digital counter

Software Tools Development for Aquarium, Klavins Lab, University of Washington   Fall 2014
- Build petri net GUI and scheduling function for Aquarium, a software for helping reproduce experimental results in synthetic biology by representing wetlab protocols as computer language and keeping track on the processes

Music Recommendation Based on Artist Novelty and Similarity, MPAC Lab, NTU   Fall 2013 – Fall 2014
- Developed a novelty-based music recommendation system which provides novel and fond music to users
- Considered not only users' taste but also artists' popularity to help promote new talent in music society
- The proposed system was evaluated by 106 subjects recruited from campus and achieves high novelty performance and similar preference performance compared to the popular Spotify Radio
- Publication: *2014 IEEE International Workshop on Multimedia Signal Processing (MMSP).*

Mind Map (Mobile Phone Programming)   Fall 2013
- An iOS app by which participants can record and organize their thoughts or flow of minds during brainstorming
- Has a drawing function that is distinct from general mind map
- Learned the basic knowledge on human-computer interaction and how to create a mobile phone app