Tyler H Ganter

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Employment

Computer Science Research Engineer, June 2016-June 2017

Sandia National Laboratories, Albuquerque, NM
- Developed novel approach to automatic seismic event detection (ANCorr) which integrates supervised learning into the standard cross-correlation approach.
  - improved detection-to-false alarm ratio by a factor of three when compared to the current standard
  - accepted in BSSA 2018:
    Ganter et al., "Alternative Null Hypothesis Correlation: A New Approach to Automatic Seismic Event Detection"
- Led large scale research study on the efficacy of the ANCorr technique using multiprocessing, SQL databases and custom data storage techniques.
- Programmed library of tools for seismic DSP and machine learning applications. (Python)
- Developed seismic signal classification system using statistical signal processing and machine learning approaches.

Research Assistant / Developer in Audio DSP, July 2014-June 2016

Interactive System Design Lab, University of Washington, WA
- Developed real-time version of Harmonic Single-Sideband Encoder (HSSE) algorithm for cochlear implant users.
- Programmed fully-functional HSSE, including pitch-tracker & coherent envelope extractor on behind-the-ear processor.
  - Subject tests on timbre recognition improved by 26%, nearing gold standard performance.
  - This work was featured on NPR as a highlight of prospective technologies for music in cochlear implants.
- Developed novel hybrid cochlear implant encoding strategy using an efficient FFT interpolation algorithm.
- Designed method for real-time implementation of 3-channel FM stimulation for vestibular implants.

Research Assistant in Computer Vision, June 2013-August 2013

Corso Lab, University at Buffalo, NY
- Developed interactive and adaptive web interface for supervoxel labeling and post-processing.
- Debugged and modified LIBSVX video segmentation algorithms to fit lab's needs.

Education

Master of Science in Electrical and Computer Engineering, June 2016

University of Washington   GPA: 3.7/4.0
  Specialization: Digital Signal Processing
  Thesis: *"Harmonic Encoding in Cochlear Implants"*

Bachelor of Science in Electrical Engineering, May 2013   Minor: Computer Science
University at Buffalo   GPA: 3.9/4.0

Programming Languages

proficient: Python, Matlab   *familiar:* SQL, C++, Assembly, Git, LaTeX

Activities, Conferences & Other

CIAP 2015 Poster Presenter, MSR ML Workshop Attendee, Tau Beta Pi Honor Society, Matthew Grappone Scholarship
German (Fluent), Croatian (Beginner)
11 months of travel in 2017-2018 in Europe, Middle East, Africa, Asia. Documented on gnarwall.org. Spent significant time on personal development including a 10-day intensive mediation retreat.