

Kevin Cheng

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EDUCATION:

Tufts University, Medford MA

Fall 2017 - Present

PhD Candidate in Electrical and Computer Engineering

- Optimal Transport Based Change Point Detection and Time Series Segment Clustering, ICASSP 2020
Kevin Cheng, Shuchin Aeron, Mike Hughes, Erika Hussey, Eric Miller.

Georgia Institute of Technology,

May 2015

M.S. Electrical and Computer Engineering: Signal and Image Processing. GPA 3.88

- Coursework includes Pattern Recognition, Adaptive Signal Proc., Digital Signal Proc, Introduction to Statistical Signal Proc., Digital Image Proc., Medical Image Proc., and Diagnostic Imaging Physics.

Franklin W. Olin College of Engineering, Needham MA

May 2011

B.S. Electrical and Computer Engineering. GPA: 3.68

Research & EXPERIENCE:

Laboratory of Prof. Eric Miller, Tufts University,

Fall 2017 - Present

- Collaborated on the machine learning team for the Center for Applied Brain and Cognitive Science.
- Developed statistical machine learning models for human activity change point detection and clustering using optimal transport and other statistical two-sample tests.
- Discovered asymptotically optimal matched filters for statistical change point detection.
- Developed mixture model clustering and statistical correlation tools for feature down-selection.
- Created automated analysis tools for heart rate variability, as well as shot target analysis.

Analogic Corporation: Imaging Engineer:

Summer 2013– Fall 2017

Imaging Engineering: CT Medical

- Developed image reconstruction and artifact corrections for 16 and 64 slice systems.
- Projects include cardiac imaging reconstruction, data-truncation correction, crosstalk deconvolution, and low-dose imaging (“Noise Reduction in Radiation Image”, Patent #10388000)
- Implemented CPU and GPU methods in MATLAB and C++/CUDA
- Debugged issues and built automated image analysis tools for validating and maintaining high image quality standards for CT systems through development, FDA submissions, clinical testing, and production.

Raytheon-BBN Technologies:

Summer 2009, 2010, Summer 2011 – Spring 2013

Associate Software Engineer: Boomerang Automated Gunfire Detection

- Designed and developed calibration methods for magnetometer, gyroscope and accelerometer sensors.
- Developed positional and orientation tracking algorithms for person and vehicle mounted systems.
- Implemented methods in MATLAB, and C for the Blackfin DSP platform.

SKILLS:

- Github: <https://github.com/kevin-c-cheng>
- Programming: Python, Matlab, CUDA, C, C++, CUDA
- Environments: Linux, Windows, Slurm, Jupyter
- Administrative: GIT, JIRA, Agile, AccuRev, CVS, Microsoft Office.