Charles Dunn

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Work and Research Experience

**MIT Lincoln Laboratory** ISR & Tactical Systems Division, Associate Technical Staff — 2012-present

Developing and implementing algorithms for a unique radar system including creating analysis tools, functionalizing a full algorithm simulator, and modifying existing complex processing. Solved for the PDF of a highly non-linear combination of noise distributions and verified the result using real data. Conducted large data set testing and analysis that led to novel algorithms and a new understanding of a high priority problem. Independently identified mathematical inconsistencies with the existing algorithm which led to a significant performance improvement.

Leveraged feature distribution divergence to dramatically accelerate feature selection and performance analysis of machine learning classification including empirically determining the linear indices of all diagonal elements of a variable-dimensional data hypercube. Quickly employed open source code and developed a ray-tracing visible light simulation for a vulnerability study.

Active US Security Clearances

**Johns Hopkins Applied Physics Laboratory** Global Engagement Department, GPS Signal Processing Summer Intern — 2011

**Johns Hopkins Applied Physics Laboratory** Global Engagement Department, GPS Circuit Design Summer Intern — 2010

**Stanford University Electrical Engineering** VLF Group, Satellite Design Engineer — 2010

**Hitachi Japan**, Nuclear Plant Design Department, Radiation Protection Summer Intern — 2009

**Ground Station Design Summer Researcher**, Stanford University Electrical Engineering, VLF Group — 2008

Education

**Stanford University** MS in Electrical Engineering 2012 – Communication Systems Concentration  
**Stanford University** BS in Electrical Engineering 2011 – Circuits and Devices Concentration

**Massachusetts Institute of Technology** Advanced Study Program 2015 – 6.437 Inference and Information

35/36

ACT Composite

4.00/4.00

Graduate GPA

800/800

GRE Quantitative

201

EE

Science

Math

CS

Japanese

Other

Units

BS

45

MS

3.80/4.00

Undergraduate GPA

Interest ( ) and Experience ( )

Image Processing Information Theory Optimization Quantified Self

Signal Processing Data Compression Cryptography Design of Experiments

MATLAB Machine Learning C/C++ Nuclear Power

Japanese Linux VLSI Layout Quantum Mechanics

Personal Interests

Internet published 50 word stories

2

Wool hat knitted

1

Coffees consumed   
per day

0

Minute  
52 second  
PR mile

4

200 mile Ragnar relay races

3

Months   
lived in   
Japan

5

YouTube videos with >4k views

6

Ball cascade

juggling  
pattern

7

Miles per day on the VT Long Trail

20

States

camped

in

8

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