Charles Dunn

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Work and Research Experience

**Associate Technical Staff**, MIT Lincoln Laboratory, Airborne Radar Group 105 — 2012-present

Developed and implemented algorithms for many radar projects including a target classifier, a signal processing testbed, and a data simulator. Quickly leveraged open source code and developed a ray-tracing visible light simulation for a vulnerability study. Solved for the PDF of a highly non-linear combination of noise distributions. Conducted large data set testing and analysis that led to novel algorithms and a new understanding of a high priority problem. Leveraged feature PDF divergence to accelerate feature selection and performance analysis for machine learning classification.

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

Conducted field tests and used MATLAB to post-process collected data and suggest new tests. Generated Coarse/Acquisition GPS code in Simulink intended for precision hardware debugging.

**Hardware Design Summer Intern**, Johns Hopkins University Applied Physics Laboratory, Global Engagement Department — 2010  
Individually designed and printed circuit boards for advanced GPS detection hardware. Taught coworkers how to use circuit layout software and printer. Used MATLAB to conduct rigorous satellite signal integrity study and presented results to colleagues.

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

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

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

Active DoD Security Clearances

Education

201

EE

Science

Math

CS

Japanese

Other

Units

BS

45

MS

**Stanford University** MS in Electrical Engineering 2012   
Communication Systems Concentration

**Stanford University** BS in Electrical Engineering 2011  
Circuits and Devices Concentration

35/36

ACT Composite

3.80/4.00

Undergraduate GPA

800/800

GRE Quantitative

4.00/4.00

Graduate GPA

Technical Skills

Machine Learning

MATLAB

Linux

C/C++

Statistics

Image Compression

Information Theory

VLSI Layout

Nuclear Power

Quantum Mechanics

Linear Algebra

Semiconductor Devices

Cryptography

Code Optimization

x86

Signal Processing

**Fundamental Knowledge**

Circuit Design

LaTeX

**Practical Experience**