Andrew Fiorillo

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EDUCATION

NEW COLLEGE OF FLORIDA
BA in Physics, with Honors
May 2015 | Sarasota, FL

LINKS

LinkedIn:// **Andrew-Fiorillo**
Github:// **andrewmfiorillo**

SELECTED COURSES

PHYSICS

Statistical Thermodynamics
Classical/Quantum Mechanics
Statistical Mechanics
Electrodynamics
Solid State Physics
General Relativity
Acoustics
Nanomaterials Research

COMPUTING & COMPOSITION

Analog Electronics
Audio Signal Processing
Scientific Computing: SVD Analysis

MATHEMATICS

Linear Algebra
Ordinary Differential Equations
Differential Geometry

RELEVANT SKILLS

PROGRAMMING

Over 10,000 lines:
Python • MATLAB • LaTeX

Over 1,000 lines:
C++ • Ruby • HTML • JavaScript
QBASIC • R • SAS

Over 100 lines:
C# • Django • Fortran • Go • Haskell
Java • jQuery • Julia • Perl • PyCUDA

SOFTWARE

MongoDB • Git • MATLAB • Fog
Visual Studio • GRAMS • AutoCAD
SketchUp • LabView • Microsoft Office

IMAGE ANALYSIS

EM edge-detection • Region-growing
Texture analysis • Pyramidal images

EXPERIENCE

INSPIRATA | Software Engineer

May 2015 - Present | Tampa, FL

- Designed and implemented an FDA-compliant file management database for ingestion and divisional allocation (research/clinical).
- Constructed a GUI tool used for database administration, managed meta- and patient-data entry, and importing new images.
- Developed extensive and publishable documentation, designed test automation protocols, and optimized bottlenecks in an existing codebase.
- Managed a team of Histology Image Analysts, including developing the analysis tool and constructing a framework to process results.

ID TECH CAMPS | Assistant Director

June 2014 - Aug 2014 | Emory University, Atlanta, GA

- Oversaw the curriculum and activities of a sleep-away technology camp for 7-17 year olds with courses in programming and game design.
- Managed staff of over 20 instructors and provided technical and academic support for their individual curricula.
- Provided point-of-contact customer service to parents of over 700 campers.
- Provided on-site technical support and network management for over 130 workstations.

RESEARCH

OPTICAL SPECTROSCOPY AND NANOMATERIALS LAB | Undergraduate Researcher

Jan 2013 – Present | Sarasota, FL

- Worked with Prof Mariana Sendova and Dr Brian Hosterman to collect and analyze over 30,000 Raman spectra in differing geometrical configurations to model diffraction-like phenomena near silicon wafer edges.
- Characterized periodic intensity fluctuations in time series of Raman spectra in several common substrate materials.
- Modeled the beam profile of the Raman microprobe and determined an algorithm for calculating beam width by analyzing line-mapped spectra.

NCF PHYSICAL CHEMISTRY LAB | Undergraduate Researcher

Feb 2013 – May 2014 | Sarasota, FL

- Worked with Prof Steven Shipman to translate a aged Fortran (F77) code into highly optimized Python.
- Optimized a non-Fourier time-to-frequency-domain algorithm using SVD on sparse matrices.
- Implemented parallel processing techniques to reduce analysis time in batch datasets.
- Reproduced an application which identifies dominant sinusoids, retaining significant phase information.
- Authored and illustrated code- and user-documentation to facilitate further development and use.