Hello,

Please find my Resume in the following pages.

Best,
Matthew C. Hancock

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Education

Fall 2012-Fall 2017 (anticipated)

Ph.D. Candidate in Applied and Computational Mathematics

Florida State University (Tallahasse, FL)

Focus: Machine learning and image-processing methods for lung image analysis

Relevant coursework: Numerical Methods (interpolation, integration, ODEs/PDEs, linear algebra, and optimization), Machine Learning, Probability theory and Statistical Inference

Spring 2012

B.S. in Applied Mathematics with Computer Science focus
Ferris State University (Big Rapids, MI)

Work

Fall 2012-present

Teaching Assistant at Florida State University (Tallahassee, FL)

Responsibilities / Accomplishments:

- Instructor, Multi-variable Calculus (Summer 2017)
- Distinguished Teaching Assistant Award (2017)
- Assistant, Foundations of Computational Math (graduate level course) (Fall 2016, Spring 2017).
- Instructor, C++ computing seminar (Fall 2016).
- Instructor, Single-variable Calculus (Spring 2016, Summer 2016).
- Instructor, Precalculus (Fall 2014, Spring 2015).
- Recitation instructor, Discrete Mathematics (Fall 2015).
- Assistant, various math courses (College algebra, Liberal Arts math, Trigonometry, Business calculus).

Fall 2011-Fall 2012

Web developer at Occupational Research and Assessment (Big Rapids, MI)

Responsibilities / Accomplishments:

- Created and designed web systems for a number of third-party organizations using the Ruby on Rails web development framework.

Fall 2009-Fall 2011 | **Programming Tutor** at Ferris State University (Big Rapids, MI)

Responsibilities / Accomplishments:

- Tutor for undergraduate introductory programming course taught with the Python programming language.

Spring 2010-Fall 2010 | **Calculus Tutor** at Ferris State University (Big Rapids, MI)

Responsibilities / Accomplishments:

- Tutor for undergraduate calculus courses (mostly single-variable calculus material).

Computational Fluency

- High-level programming languages: Python (NumPy, SciPy, Scikit Learn, Scikit Image, Theano, Cython), JavaScript, Ruby, PHP
- Mid-level programming languages: C++, Fortran
- Markup languages: LaTeX, Web (HTML, CSS)
- Relational databases languages: SQLite, MySQL
- General Unix-like operating system tools

Activities

- **Participant in Capital One modeling competition** – Our group created a neural network model for identifying fraudulent credit card transactions. This involved preprocessing tens of gigabytes of raw data to be placed into an SQL database, whereafter a custom, GPU-based neural network was trained.
- **Creator and developer of Pylidc** – Pylidc is a software library for working with LIDC lung CT dataset. The library is built with Python and its associated scientific computing libraries and is freely available. https://github.com/pylidc/pylidc.
- **C++ and Fortran Reference Guides for Graduate Seminar** – In collaboration with a fellow graduate student, Emacs Org-mode was used to create C++ and Fortran reference guides to be used in the Applied and Computational Mathematics computational seminar for first year graduate students at FSU. The guides are available under a Creative Commons license. http://notmatthancock.github.io/teaching/acm-computing-seminar/resources/langs/cpp/

Journal Publications

- Matthew C. Hancock, Jerry F. Magnan. **Lung nodule malignancy classification using only radiologist quantified image features as inputs to statistical learning algorithms: probing the Lung Image Database Consortium dataset with two statistical learning methods**. *SPIE Journal of Medical Imaging*. Dec. 2016. http://dx.doi.org/10.1117/1.JMI.3.4.044504

Conference Proceedings

- Matthew C. Hancock, Jerry F. Magnan. **Predictive capabilities of statistical learning methods for lung nodule malignancy classification using diagnostic image features: an investigation using the Lung Image Database Consortium dataset**. *SPIE Medical Imaging Symposium, Computer-Aided Diagnosis Conference (Orlando, FL)*. Feb. 2017. http://dx.doi.org/10.1117/12.2254446

Talks Given

- Matthew C. Hancock, Jerry F. Magnan. **Predictive capabilities of statistical learning methods for lung nodule malignancy classification using diagnostic image features: an investigation using the Lung Image Database Consortium dataset**. *SPIE Medical Imaging Symposium, Computer-Aided Diagnosis Conference (Orlando, FL)*. Feb. 2017. (talk associated with corresponding conference proceeding). http://notmatthancock.github.io/research/talks/spieconf2017.pdf
- Matthew C. Hancock. **10 FREE Python Libraries that will TOTALLY SHOCK you**. *FSU Math Department Graduate Student Seminar*. Spring 2017. (Presentation of various Python library for scientific computing. The title is a spoof on clickbait journalism.). http://notmatthancock.github.io/research/talks/gss-python/
- Matthew C. Hancock. **A survey a of PDE-based methods for image segmentation** . *FSU Math Department Graduate Student Seminar*. Spring 2016. http://notmatthancock.github.io/research/talks/gss-pdes/

Posters Presented

- Matthew C. Hancock, Jerry F. Magnan. **Lung nodule malignancy classification using diagnostic image features**. *SIAM SEAS Conference (Tallahassee, FL)*. Spring 2017. http://notmatthancock.github.io/research/pdf/siam-seas-2017.pdf

References available upon request.