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Mathew Calkins

Machine Learning Engineer

Experience

Software Engineering and Data Science Consultant, Booz Allen Hamilton (March 2018 - present)

- Implement a text classifier to enhance a chatbot virtual assistant to augment user experience on federal agency websites
- Develop a chatbot prototype for a business proposal to demonstrate how leveraging natural language processing and a chatbot in a browser interface could help people eligible for a federal nutrition program find farmer's markets participating in the program
- Build a text classification model to identify apprenticeships among 80K job listings; collaborate with stakeholders to understand and harmonize characteristics of a true apprenticeship; develop a rubric to standardize and scale data labeling efforts

Assistant Machine Learning Instructor, Lambda School (January 2018 - July 2018)

- Develop curriculum for intensive six-month software boot camp focused on machine learning, data science, and artificial intelligence
- Produce tutorials, study materials, and homework exercises

Machine Learning Intern, Radiant.Earth (January 2018 - March 2018)

- Design and develop machine learning models for targeted applications using remote sensing data
- Develop open-source Python notebooks for Radiant.Earth's user community
- Help to define new use cases for application of machine learning techniques on remote sensing data to address sustainable development goals

Machine Learning Research Assistant, UMD Center for Nanophysics and Advanced Materials (June 2017 - January 2018)

- Collaborate with researchers across machine learning, solid state physics, and materials science
- Collect, clean, and organize messy chemical data from a variety of sources
- Apply deep learning techniques to predict superconductivity

Education

B.S. in Mathematics, University of Maryland at College Park (Summer 2017)

Publications

- *Think Different: Applying the Old Macintosh Mantra to the Computability of the SUSY Auxiliary Field Problem* (with D. E. A. Gates, S. J. Gates, and W. Golding) JHEP 1504 (2015) 056
- *Adinkras, 0-branes, Holoraumy and the SUSY QFT/QM Correspondence* (with D. E. A. Gates, S. J. Gates, and K. Stiffler) Int.J.Mod.Phys. A30 (2015)
- *Is it Possible to Embed a* $4D, \mathcal{N} = 4$ *Supersymmetric Vector Multiplet Within a Completely Off-Shell Adinkra Hologram?* (with D. E. A. Gates, S. J. Gates, and B. McPeak) JHEP 1405 (2014) 057