Mike McCarty

CONTACT INFORMATION

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SUMMARY

Experienced engineer focused on building Data Science and Machine Learning tools, web services, and cloud computing resources. Solid background in scientific computing, software engineering, open source development, leadership, and mentoring.

PROFESSIONAL EXPERIENCE

Prefect Inc
Advisory Board Member **2020 - Present**
Technical advisor on product offerings and open source development

Capital One - Center for Machine Learning
Director of Software Engineering **July 2019 - Present**
Senior Manager, Lead Software Engineer **Oct 2018 - July 2019**
Drove adoption of Dask and RAPIDS throughout the enterprise leading to 10-100x computational improvement for model training / predictions and scaled train datasets 2 orders of magnitude.

Led organization building and maintaining custom machine learning tools for the enterprise.

Subject matter expert for the PyData and SciPy software stacks.

Contributed to open source projects (Dask, RAPIDS, XGBoost).

Anaconda Inc
Platform Engineer and Open Source Developer **Oct 2017 - Oct 2018**
Platform engineer on enteprise products. Open Source developer on data science and machine learning projects.

Morehead State University - Dep. of Mathematics and Physics - Morehead, KY
Chairman of Advisory Board **2016 - 2017**

Zoomdata Inc - Reston, VA
Senior Software Engineer / Technical Lead **Sept 2016 - Oct 2017**
Developed and maintained Zoomdata, a Big Data Business Intelligence tool that is capable of connecting to modern data sources for visualization. Led Application Platform development team, consisting of 6 engineers.

Booz Allen Hamilton - Washington, DC
Lead Engineer **Mar 2016 - Sept 2017**
Led development of data management, ingest, analysis, and visualization on TCPI project for the Health and Human Services.

Mission Data - Washington, DC
Principal Engineer **Feb 2015 - Mar 2016**

Rivera Group, Inc - Louisville, KY
Software Architect / Product Development Manager **Nov 2013 - Feb 2015**

Nub Games, Inc
Senior Software Engineer **Jan 2013 – Nov 2013**

National Radio Astronomy Observatory - Green Bank, WV
Software Engineer **Sept 2010 - Jan 2013**
Green Bank Telescope (GBT) Software Development Division

National Institute for Computational Sciences / Oak Ridge National Lab - Oak Ridge, TN
Systems Programmer **Aug 2009 - Aug 2010**
High Performance Computing Operations Group

National Radio Astronomy Observatory - Green Bank, WV
Software Engineer **Oct 2006 - Aug 2009**
Green Bank Telescope (GBT) Software Development Division

National Radio Astronomy Observatory - Charlottesville, VA
Software Engineer **May 2005 - Sept 2006**
Atacama Large Millimeter Array (ALMA) Front End Integration Center

Education

University of Illinois, Urbana-Champaign, IL

Graduate Coursework **2011**

Morehead State University, Morehead, KY

B.S., Physics **2006**
B.S., Computer Science **2002**

Skills

- Programming Languages (professional experience)
  - Python, Java, Ruby, JavaScript, Go, Swift, Lisp, C, C++, Haskell, PHP
- Data Science / Scientific Computing
  - RAPIDS, Dask, Xarray, Pandas, NumPy, SciPy, scikit-learn
- Web Frameworks
  - Spring, Ruby on Rails, Flask, Tornado, Django
- Databases
  - Relational Schema Design, Postgres, MySql, MSSql, Snowflake, MongoDB, ElasticSearch
- Code RCS
  - Git, Mercurial, Darcs, SVN, CVS
- Operating Systems
  - Linux/Unix and macOS
- Areas of Practice
  - Machine Learning at Scale, Cloud Computing (AWS, GCP, Azure), Web Application Development, Database Design and Development, Object-Oriented and Functional Programming, Distributed Computing, Microservices, Systems Engineering, Data Mining and Knowledge Discovery, Technical Writing, Agile Development, Test-Driven Development

PUBLICATIONS

Conference Proceedings

- McCarty, M., Crosby, L., & Baer, T. 2010, "Regression Testing on Petaflop Computational Resources", in Cray Users Group Meeting Proceedings
- Marganian, P., Clark, M., McCarty, M., & Shelton, A. 2010, "The GBT Dynamic Scheduling System: A Web 2.0 Application", in Astronomical Society of the Pacific Conference Series, vol. pp. 434
- Balser, D. S., Bignell, C., Braatz, J., Clark, M., Condon, J., Harnett, J., O'Neil, K., Maddalena, R., Marganian, P., McCarty, M., Sessoms, E., & Shelton, A. 2009, "GBT Dynamic Scheduling System: Algorithms, Metrics, and Simulations", in Astronomical Society of the Pacific Conference Series, vol. 411, pp. 330
- Braatz, J., Balser, D. A., Bignell, C., Clark, M., Harnett, J., McCarty, M., Marganian, P., O'Neil, K., & Shelton, A. 2009, "The GBT Dynamic Scheduling System: The Observers' Perspective", in Astronomical Society of the Pacific Conference Series, vol. 411, pp. 334
- Clark, M., Balser, D., Sessoms, E., Bignell, D., Condon, J., McCarty, M., Marganian, P., O'Neil, K., Shelton, A., & Maddalena, R. 2009, "The GBT Dynamic Scheduling System: "When do I observe?' ' Guiding Users' Expectations", in Astronomical Society of the Pacific Conference Series, vol. 411, pp. 338
- Marganian, P., Clark, M., McCarty, M., Sessoms, E., & Shelton, A. 2009, "The GBT Dynamic Scheduling System: Powered by the Web", in Astronomical Society of the Pacific Conference Series, vol. 411, pp. 342
- McCarty, M., Clark, M., Marganian, P., O'Neil, K., Shelton, A., & Sessoms, E. 2009, "The GBT Dynamic Scheduling System: Development and Testing", in Astronomical Society of the Pacific Conference Series, vol. 411, pp. 346
- O'Neil, K., Balser, D., Bignell, C., Clark, M., Condon, J., McCarty, M., Marganian, P., Shelton, A., Braatz, J., Harnett, J., Maddalena, R., Mello, M., & Sessoms, E. 2009, "The GBT Dynamic Scheduling System: A New Scheduling Paradigm", in Astronomical Society of the Pacific Conference Series, vol. 411, pp. 147
- Sessoms, E., Clark, M., Marganian, P., McCarty, M., & Shelton, A. 2009, "The GBT Dynamic Scheduling System: Scheduling Applications of the Knapsack Problem and Sudoku", in Astronomical Society of the Pacific Conference Series, vol. 411, pp. 351
- McCarty, M. and Ransom, S. December 2005, "GBT Pulsar Observations", Bulletin of the American Astronomical Society, Vol. 37, pp. 1469