Matthew R Masters

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Education

Purdue University
West Lafayette, IN
Aug 2015 - Present

- B.S. in Pharmaceutical Sciences
- Minor in Computer Information Technology
- Involvement in academic research and related clubs

Essex North Shore Technical School
Danvers, MA
Sept 2011 - May 2015

- Honors and AP courses in mathematics, physics, english, and biology
- 2000-hour Information Technology Systems course with emphasis on internetworking and cybersecurity

Northeastern University
Boston, MA
Sept 2013 - Dec 2014

- 6 Information Technology related courses (18 credit hours)
- Funded by Academy of College Excellence grant

Experience

Purdue University: ITaP
Senior Lab Assistant
West Lafayette, IN
Oct 2016 - Mar 2020

- Worked in a team environment to install, configure, and image hundreds of PC workstations
- Provided technical customer support to students and staff on-campus
- Managed and provided evaluations for a team of student workers

Carino Web Design
Web Designer
Swampscott, MA
Dec 2012 - June 2015

- Created and managed websites for individuals and small businesses
- Custom website development based on the WordPress content management system
- Remote control of LAMP-based web servers and SQL databases

Staples: Easy Tech
Computer Technician
Salem, MA
July 2013 - June 2014

- Familiar with troubleshooting operating systems, email, financial and database software, and networking issues
- Performed thousands of virus and malware removal from infected personal computers
- Replaced and upgraded computer hardware

Research and Publications

Lill Research Group
- Learned about the fundamentals of molecular modelling including molecular dynamics, docking, and structural bioinformatics
- Played a large role in developing a method for the accurate modelling of solvation effects in biomolecular systems
- Leveraged machine learning techniques to develop drug-target scoring functions for use in pose prediction, affinity estimation, and virtual screening tasks

Publications
- Mahmoud, A. H., **Masters, M. R.**, Yang, Y., & Lill, M. A. (2020). Elucidating the multiple roles of hydration for accurate protein-ligand binding prediction via deep learning. Communications Chemistry, 3(1), 1-13.
- **Masters, M. R.**, Mahmoud, A. H., Yang, Y., & Lill, M. A. (2018). Efficient and Accurate Hydration Site Profiling for Enclosed Binding Sites. Journal of Chemical information and Modeling, 58(11), 2183-2188.

Skills

Programming and Software Development
- Python, C, C++, JS, PHP, MATLAB
- PyTorch, Tensorflow, Scikit-learn
- Code debugging and profiling
- HPC and containerized deployment
- Well versed in web design and serving cloud-based applications

Pharmaceutical Sciences
- Understanding of chemical and molecular basis of human physiology, disease pathology, and drug mechanisms
- Experience with synthesizing, purifying, and analyzing organic compounds using IR, NMR, GC-MS, and gel chromatography
- In-depth knowledge of drug development process
- Familiar with reading technical and scientific literature

Certifications
- CompTIA A+
- CompTIA Net+
- Cisco IT Essentials
- Cisco CCENT
- OSHA 10-hour
- FERPA/GLBA

Awards
- Outstanding Vocational Technical Student Award (2015)
- Information Technology Systems Work Ethic Award (2013)
- SkillsUSA - Gold Medal in Internetworking (2014)
- Cisco NetRiders - Round Two Winner (2013)
- SkillsUSA - Gold Medal in Web Design (2012, 2013)

Activities and Memberships
- Association of Information Technology Professionals
- Entrepreneurship learning community member
- Cavalier Club executive board member and webmaster
- National Honor Society and National Technical Honor Society
- Founded high school student newspaper and website, HawkSpan