

# Matthew R Masters

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781-492-5257

## EXPERIENCE

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### Gap Year

May 2020 - Present

- Contributed to multiple open-source software projects
- Self-taught through online courses and textbooks

### Undergraduate Researcher

Lill Lab at Purdue University  
West Lafayette, IN  
Oct 2017 - May 2020

- Investigated a variety of applied research problems, reviewed scientific literature, and devised research methodology
- Developed new software and maintained existing tools using Python, C++, and machine learning libraries
- Communicated findings through presentations and peer-reviewed publications

### Senior Lab Assistant

Purdue University  
West Lafayette, IN  
Oct 2016 - May 2020

- Worked in a team environment to install and configure hundreds of Windows and Mac workstations
- Provided technical customer support to students and staff
- Managed and evaluated a team of student workers

### Web Designer

Carino Web Design  
Swampscott, MA  
Dec 2012 - June 2015

- Consulted individuals and small businesses to learn their web design needs
- Designed and built websites on the WordPress content management system

### Computer Technician

Staples Easy Tech  
Salem, MA  
July 2013 - June 2014

- Solved technical issues related to operating systems, email, financial/database software, networking, and hardware
- Removed hundreds of viruses from personal computers

## EDUCATION

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### Purdue University

West Lafayette, IN  
Aug 2015 - May 2020

- Bachelor of Science in Pharmaceutical Sciences
- Minor in Computer Information Technology

### Essex North Shore Technical High School

Danvers, MA  
Sep 2011 - May 2015

- Honors and Advanced Placement courses in biology, physics, mathematics, and English
- 2000-hour Information Technology Systems course

### Northeastern University

Boston, MA  
Sep 2013 - Dec 2014

- 18 credit hours in Information Technology courses

## PUBLICATIONS

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- Mahmoud, A. H., Masters, M. R., Yang, Y., & Lill, M. A. Elucidating the multiple roles of hydration for accurate protein-ligand binding prediction via deep learning. Nature Communications Chemistry (2020)
- Masters, M. R., Mahmoud, A. H., Yang, Y., & Lill, M. A. Efficient and Accurate Hydration Site Profiling for Enclosed Binding Sites. Journal of Chemical Information and Modeling (2018)

## SKILLS

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Computational Biology	Molecular dynamics (OpenMM, Amber), molecular docking (AutoDock, GOLD), visualization (PyMOL, VMD, NGL), chemoinformatics (RDKit, OpenEye), deep learning (DeepChem, gnina), sequence alignment (BLAST)
Data Science	Pandas, NumPy, Scikit-learn, PyTorch, TensorFlow, Matplotlib, data wrangling, feature engineering, supervised and unsupervised learning methods
Programming Languages	Python, C, C++, SQL, JavaScript (React, Node), PHP, HTML, CSS, MATLAB
Certifications	CompTIA A+, Net+, Linux+, Cisco IT Essentials, CCENT, OSHA 10-hour
Other	Linux, Git, Docker, AWS, code debugging, profiling, statistical analysis (SPSS), productivity tools (Office, Drive), graphic design (Photoshop, Illustrator)

## ACTIVITIES

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- Kaggle Master, ranked 8th out of over 180,000 users in discussions tier
- Executive board member and webmaster of Cavalier Club
- Member of Association of Information Technology Professionals
- Member of National Honor Society and National Technical Honor Society
- Founded high school student newspaper and website, HawkSpan

## AWARDS

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- 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)