



**Mary Elizabeth Breen-Lyles**

## CONTACT



(920) 370 - 1896



mary.breenlyles@gmail.com



www.marybreenlyles.com



603 W Stratford Pl Apt 2A  
Chicago, IL 60657

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### To Whom It May Concern:

Studying physics and engineering was not easy -- certainly not as easy as my decision to pursue a role where I can fully actualize the passion for programming I have cultivated over years of delivering code for both my academic and professional pursuits. This is why I am interested in an internship with Voxel51. My lifelong commitment to learning and excitement for technology is reflected by my experience producing code and design solutions for my contract work, designing and writing software programs to use in my various research projects, and working with a variety of software and development platforms over the past 5 years. This has led me to seek positions at companies where I can apply this unique skill set and training, and I believe Voxel51 could be one of the best places for exactly that. Working with Voxel51 would also give me the opportunity to learn more about the innovative technologies powering AI today -- not an everyday opportunity.

So what have I been up to in the last 5 years? Well, I have completed 3 separate development contracts and 4 different large-scale research projects in an array of unique engineering and programming contexts, all while gaining hands-on experience I can draw from while finding my place in the software industry. Right now, I am working independently with clients to develop both small and large scale web applications and tools. This includes an extensible, asynchronous web scraper built with Selenium, ChromeDriver and Python, as well as a set of marketing optimization tools for Amazon vendors that leverages the Amazon Advertising API. I am no stranger to developing and maintaining more complex code bases, however. While completing my MS in mechanical engineering at Northern Illinois University, my thesis work focused on molecular simulation and computational materials design, primarily in LAMMPS, a molecular dynamics package for performing large-scale parallel computations over distributed systems. I used a diverse set of software to generate and analyze data produced by a complicated molecular ensemble using Linux development and runtime environments, wrote and collaborated on all of the required code for each of these elaborate simulations, and had to quickly gain a working knowledge and understanding of each of the unique languages associated with a varied set of required molecular dynamics software. Prior to this, I took courses in OO programming, and data structures and algorithms in Java at Beloit College. At the same time, I held a research assistantship working in the accelerator laboratory where I designed and machined many electronic and mechanical devices to be used for a linear proton accelerator and its bending electromagnet. After gaining this useful programming experience in both my academic and independent work, I became a fast learner, now able to effectively implement new knowledge and original techniques in my work.

Without a formal computer science degree, some might be skeptical of my software development capacities, but I have proven through my research and independent work that I am more than capable of quickly getting myself up to speed on new platforms and delivering real solutions. I am fully confident that given the right opportunity, my skill set, unique perspective, and outgoing attitude would prove to be of great value as an intern at Voxel51. My experience designing and delivering code, troubleshooting, and working closely with the students and staff on my past teams has fostered critical thinking skills, a strong mathematical aptitude, and a passion for problem solving. I have also developed an eagerness for learning and attaining not just exceptional performance from myself, but from my code as well. My diverse background was built from design and programming insight on multiple platforms, frequent use of Git, and experience using a variety of development environments and software such as Visual Studio, Eclipse, MATLAB, and LabVIEW. I have also had experience programming in languages like Java, Python, PHP, HTML, CSS, JavaScript, MySQL, and Tcl. For a more complete snapshot of my qualifications, I encourage you to take a look at my resume. An opportunity to apply and enhance these skills with Voxel51 would be a privilege.

Thank you very much for your time and consideration. If you are looking for a tenacious team member willing to put in the necessary work to rigorously learn on the job and enthusiastically pursue Voxel51's goals, I would love to fill that role. Please feel free to contact me by the above email or phone number, and I'll be happy to speak with you more.

Respectfully,

Mary Breen-Lyles