

# Daniel McNeela

Portfolio: [mneela.github.io](https://mneela.github.io)  
Github: [github.com/mcneela](https://github.com/mcneela)

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## EDUCATION

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- **University of Wisconsin, Madison** Madison, WI  
*Master of Science - Machine Learning, Computational Biology* *September 2021 - December 2022*  
*Courses: High Performance Computing (C, C++, CUDA), Big Data Systems, Weakly Supervised Machine Learning, Databases, Operating Systems, Mathematical Statistics, Statistical Methods for Medical Image Processing, Medical Image Analysis, Computational Network Biology, Bioinformatics*
- **University of California, Berkeley** Berkeley, CA  
*Bachelor of Arts - Applied Mathematics* *August 2012 - May 2017*  
*Courses: Measure Theory & Topology, Complex Analysis, Real Analysis, Numerical Analysis, Mathematical Logic, Algorithms, Machine Learning, NLP Research Seminar, Deep Learning Research Seminar, Data Structures, Great Ideas in Computer Architecture, Structure and Interpretation of Computer Programs, Advanced Linear Algebra, Honors Linear Algebra & Differential Equations, Honors Abstract Algebra, Honors Multivariable Calculus, Computational Linguistics, Computational Neuroscience, Discrete Mathematics, Mathematical Logic, Numerical Analysis*

## SKILLS SUMMARY

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- **High-Level:** Distributed Systems, Machine Learning, Geometric Deep Learning, NLP
- **Languages:** Python, C, C++, SQL
- **Frameworks:** Django, PyTorch, HuggingFace Transformers, SpaCy, scikit-learn, React.js
- **Tools:** Docker, Singularity, Git, Bash, Sphinx, PostgreSQL, MongoDB
- **Platforms:** Linux, AWS (S3, EC2)
- **Soft Skills:** Leadership, Technical Writing, Content Writing, Product Management

## EXPERIENCE

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- **UW Madison** Madison, WI  
*Graduate Student Researcher* *June 2021 - Present*
  - **Machine Learning:** Performing research in computational drug discovery, unsupervised representation learning, self-supervised contrastive learning, and graph neural networks under the guidance of Professors Anthony Gitter and Fred Sala.
- **Eli Lilly** San Diego, CA  
*Software Engineer* *June 2020 - May 2021*
  - **Backend Architecture:** Served as product owner for drug discovery platform. Developed and maintained pipeline for in-silico drug discovery of monoclonal antibodies and immunotherapeutics using Cromwell, Python, R, and Django. Scaled pipeline to handle runs with thousands of jobs using cloud tools such as AWS and Docker. Handled testing using frameworks such as pytest and pytest-wdl.
  - **Frontend:** Contributed to frontend for drug discovery platform used by scientists across the company. Developed extensively in React.js.
  - **Machine Learning:** Engineered statistical and machine learning models for drug discovery in R and Python.
- **Flamethrower AI** San Diego, CA  
*Founder* *October 2019 - June 2020*
  - **Content Development:** Created an online course which teaches deep learning fundamentals by having students build their own deep learning library, similar to PyTorch and Tensorflow.
  - **Marketing & Entrepreneurship:** Built company website, developed course materials, devised branding, wrote blog posts, and generated sales.
- **Human Longevity, Inc.** San Diego, CA  
*Machine Learning Researcher* *February 2019 - October 2019*
  - **Bioinformatics:** Built bioinformatics pipelines for variant calling incorporating GATK tools. Architected with Python and workflow management with Luigi.
  - **NLP:** Developed models for Biomedical Named Entity Recognition for internal company search engine.
- **machineVantage** Berkeley, CA  
*Machine Learning Researcher* *August 2017 - February 2019*
  - **Deep Learning and NLP:** Implemented deep learning models from current NLP research papers and performed novel research in machine learning. Focused on word and sentence embedding models such as word2vec, GloVe, and FastText.
  - **Web App for Concept Search:** Built an in-house web app which allowed marketers to rapidly search through related cultural/brand concepts. Mined page links in Wikipedia, wrote code in C++ to collate links, generated embeddings, and served data using ElasticSearch. Built a microservice using Flask as a backend with Javascript frontend.
  - **Leadership & Sales:** Assisted leadership team (CEO, CTO, and VPs) in delivering sales pitches to executives from client companies.