# Colby T. Ford, Ph.D.

*Cloud Data, AI, & Genomics Architect,*
*Computational Biologist, & Data Scientist*

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Microsoft MVP:      5005240

## Education

*The University of North Carolina at Charlotte*

2018   Doctor of Philosophy in Bioinformatics and Computational Biology
       *Advisor: Daniel Janies, Ph.D.*
       *Wayland H. Cato Doctoral Fellow*

2015   Master of Science in Data Science and Business Analytics
       *Advisor: Mirsad Hadžikadić, Ph.D.*

2014   Bachelor of Arts in Applied Mathematics, Concentration in Statistics
       *Advisor: Mary Kim Harris, Ed.D.*
       *Coffey Scholar, C.L. Robbins Scholar*

## Industry Positions

### Tuple *(a Microsoft Partner)*

Founded the only Microsoft and Databricks partner firm specializing in scalable cloud -omics solutions. Tuple provides data architecture and research consulting services in Azure, focusing on cloud AI in the life sciences. Co-wrote the Azure Data Scientist Microsoft Certified Solution Associate exam (DP-100) and the MS Learn Azure Data Scientist exam. Created the `azbasespace` connector for Illumina BaseSpace to Azure and the `ahab` system for -omics in Kubernetes. Microsoft Partner-of-the-Year nominee for 2023.
As subsidiary of Tuple, I created Silico Biosciences, an AI-driven drug discovery company. Silico uses a scalable computational framework to generate antibody candidates using AI models and evaluate them *in silico*. Currently, Silico Biosciences has created antibody candidates for oncotargets PD-1 and EGFR, and viral targets including H5N1 influenza and Nipah virus.

August 2019 - Present    Owner & Principal Consultant, Tuple

### Pfizer

Established a scalable cloud computing architecture on Azure to support the Translational Sciences group in the discovery of therapeutic targets for antibody development in oncology. This includes an automated, Kubernetes-based workflow for scalable RNA-seq, WES, protein docking, and pharmacodynamics pipelines along with a supporting GxP-qualified data platform, data lake, and machine learning architecture. Collaborated with pre-clinical and clinical teams to design scalable, cloud-based protein structural analyses for antibody candidates against tumor targets. Trained and productionalized large drug sensitivity ML models using gene expression data that were used in patient selection in clinical trials.

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| December 2023 - May 2024 | Mgr. ML & Cloud Engineering, Bioinformatics, Pfizer Oncology |
| September 2021 - December 2023 | Mgr. ML & Cloud Engineering, Bioinformatics, Seagen |
| March 2021 - September 2021 | Sr. Scientist, Bioinformatics, Seagen |

### Amissa Health

Co-founded Amissa, Inc., a digital health company that uses cloud-based AI and analytics through consumer wearable devices in the fight against Alzheimer's disease and other conditions. Designed and built the *Sinuo* cloud platform, which applies state-of-the-art artificial intelligence techniques to sensory data, digital biomarkers, and additional patient metrics. Amissa's work was funded by the NIH National Institute on Aging SBIR program (>$3.5M), NC state SBIR funds, and the NSF I-Corps program.

    March 2020 - October 2024    Co-Founder & VP of Technology

### BlueGranite (a Microsoft Partner)

Developed data platform and AI solutions using the Microsoft Azure cloud with services such as Azure Machine Learning, Cognitive Services, and Databricks (Apache Spark). Hosted many training workshops and gave conference presentations and demonstrations on Microsoft advanced analytics technologies. Started and led the genomics consulting practice, building scalable solutions for bioinformatics analyses in Azure. (Acquired by 3Cloud, LLC.)

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| May 2020 - October 2021 | Principal Architect, Life Sciences |
| December 2020 - May 2020 | Genomics Practice Lead |
| December 2020 - May 2020 | AI Practice Lead (Interim) |
| November 2018 - December 2020 | Solution Architect, Artificial Intelligence |
| January 2017 - November 2018 | Senior Data Scientist |

### Edge Systems - The HydraFacial Company

Lead the data science and cloud infrastructure team through research and development initiatives related to IoT medical device informatics. Responsible for innovation with product marketing and engineering to improve and enhance technology products and processes. Implemented computer vision capabilities on the HydraFacial skin analyzer device for detection and classification of dermatologic conditions. (NASDAQ IPO: SKIN, now called Beauty Health Co.)

    July 2019 - March 2020    Director of Data Science, Disruptive Labs

### Ember.AI

Developed a custom artificial intelligence engine for building state-of-the-art natural language processing models for fraud and compliance-related use cases. Built a large-scale, massively parallel processing architecture using Amazon Web Services and Databricks (Apache Spark) for interactive model training. (IP Acquired by Barrick Gold Corp.)

    August 2018 - March 2020    Chief Data Scientist

### Cencora (formerly AmerisourceBergen)

Developed machine learning experiments and data analysis workflows to aid in pharmaceutical client analytics. Created analysis pipelines for the discovery and understanding into patient drug adherence and rare disease drug access. Consulted in company data architecture including master data management and governance for future business strategy to grow value for client accounts.

    February 2016 - February 2017    Senior Data Science Lead, Lash Group

*Mariner* (a Microsoft Partner)

Consulted in the development of machine learning experiments, including parametric and non-parametric models, statistical predictions, and data mining. Built Azure cloud-based solutions for data collection, processing, and storage using Microsoft Azure Technologies such as Data Science Virtual Machines, Machine Learning Studio, Azure SQL Database, and more. Designed and created interactive visualizations for both dashboarding and reporting using Microsoft Power BI, Tableau Desktop, & Tableau Server.

> October 2014 - February 2016    Data Scientist, Consultant

*Caldwell Hospice and Palliative Care*

Pioneered the transition from handwritten, paper medical forms to electronic data and served as a database administrator. Worked closely with HIPAA and Medicare/Medicaid guidelines for data compliance.

> August 2008 - December 2011    Medical Records Database Administrator

# Academic Positions

*The University of North Carolina at Charlotte*

Redesigned and taught *Cloud Computing for Data Analysis* (DSBA 6190) for the School of Data Science Master's program. Received a funding grant from Microsoft to modernize and rebuild the course content on the Azure cloud platform. Performing research in a broad range of fields in the bioinformatics and computational biology space including infectious diseases, epistasis, human genomics, and phylogenetics.

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| September 2023 - Present | Visiting Scholar | CIPHER Research Center |
| January 2019 - Present | Associate Faculty | School of Data Science |
| July 2021 - October 2024 | University Business Partner | Research and Economic Development |
| January 2021 - May 2021 | Public Health Researcher | Dept. of Public Health |
| January 2019 - July 2021 | Bioinformatics Researcher | Dept. of Bioinformatics and Genomics |
| April 2018 - December 2018 | Postdoctoral Researcher | Dept. of Bioinformatics and Genomics |
| May 2016 - April 2018 | Research Assistant | Dept. of Bioinformatics and Genomics |

*Northeastern University*

Taught a summer session of machine learning to graduate students in the LEVEL analytics program.

> May 2015 - August 2015    Guest Lecturer    D'Amore-McKim School of Business

*North Carolina New Schools*

Responsible for entire technology inventory: ordering, maintenance, management, etc. and maintained school website. Liaison between college (CCC&TI) and high school technology departments. Taught NCVPS mathematics courses, held additional teaching sessions in math and science and SAT & ACT preparation.

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| April 2014 - October 2014 | Technology Facilitator | Caldwell Early College |
| April 2014 - October 2014 | Assistant Mathematics Instructor | Caldwell Early College |

# Publications

*Peer-Reviewed Journal Articles*

J28. Nicholas F. Santolla and **Colby T. Ford**. AI-Based Antibody Design Targeting Recent H5N1 Avian Influenza Strains. *Computational and Structural Biotechnology Journal*, June 2025

J27. **Colby T. Ford**, Shirish Yasa, Khaled Obeid, Rafael Jaimes III, Phillip J. Tomezsko, Sayal Guirales-Medrano, Richard Allen White III, and Daniel Janies. Large-Scale Computational Modelling of H5 Influenza Variants Against HA1-Neutralising Antibodies. *Lancet eBioMedicine*, 114, Apr 2025

J26. Arianna Comendul, Frederique Ruf-Zamojski, **Colby T. Ford**, Pankaj Agarwal, Elena Zaslavsky, German Nudelman, Manoj Hariharan, Aliza Rubenstein, Hanna Pincas, Venugopalan D. Nair, Adam M. Michaleas, Philip D. Fremont-Smith, Darrell O. Ricke, Stuart C. Sealfon, Christopher W. Woods, Kajal T. Claypool, and Rafael Jaimes. Comprehensive guide for epigenetics and transcriptomics data quality control. *STAR Protocols*, 6(1):103607, 2025

J25. **Colby T. Ford**, Jake A. Galler, Yingnan He, Cathrine Young, Beata Gabriela K. Simpson, Chao-Yi Wu, Jake Pfaffenroth, Eh So Wah, Steven E. Arnold, Hiroko H. Dodge, and Sudeshna Das. Using Apple Watches to Monitor Health and Behaviors of Individuals with Cognitive Impairment: A Case Series Study. *The Journals of Gerontology: Series A*, 10 2024

J24. **Colby T. Ford**. PD-1 Targeted Antibody Discovery Using AI Protein Diffusion. *Technology in Cancer Research & Treatment*, 23, 2024

J23. Shirish Yasa, Sayal Guirales-Medrano, Denis Jacob Machado, **Colby T. Ford**, and Daniel A. Janies. Predicting Antibody and ACE2 Affinity for SARS-CoV-2 BA.2.86 and JN.1 with *In Silico* Protein Modeling and Docking. *Frontiers in Virology*, 4, 2024

J22. **Colby T. Ford**, Phillip J. Tomezsko, Avery E. Meyer, Adam M. Michaleas, and Rafael Jaimes III. Human Cytokine and Coronavirus Nucleocapsid Protein Interactivity Using Large-Scale Virtual Screens. *Frontiers in Bioinformatics*, 4, 2024

J21. Nicholas J. Santistevan, **Colby T. Ford**, Cole S. Gilsdorf, and Yevgenya Grinblat. Behavioral and transcriptomic analyses of *mecp2* function in zebrafish. *American Journal of Medical Genetics Part B: Neuropsychiatric Genetics*, e32981, 2024

J20. Tara N. McCray, Vy Nguyen, Jake S. Heins, Elizabeth Ngyuen, Kristen Stewart, **Colby T. Ford**, Calvin Neace Neace, Priyanka Gupta, and David J. Ortiz. Bronchioalveolar organoids: A preclinical tool to screen toxicity associated with antibody-drug conjugates. *Toxicology and Applied Pharmacology*, 485:116886, 2024

J19. The Critical Assessment of Genome Interpretation Consortium. CAGI, the Critical Assessment of Genome Interpretation, establishes progress and prospects for computational genetic variant interpretation methods. *Genome Biology*, 25(1):53, Feb 2024

J18. Hsin Lee, Kwen-Shen Lee, Chia-Hsin Hsu, Chen-Wei Lee, Ching-En Li, Jia-Kang Wang, Chien-Chia Tseng, Wei-Jen Chen, Ching-Chang Horng, **Colby T. Ford**, Andreas Kroh, Omri Bronstein, Hayate Tanaka, Tatsuo Oji, Jih-Pai Lin, and Daniel Janies. Reply to: Embracing the taxonomic and topological stability of phylogenomics. *Scientific Reports*, 14(1):4094, Feb 2024

J17. Daniel Kepple, **Colby T. Ford**, Jonathan Williams, Beka Abagero, Shaoyu Li, Jean Popovici, Delenasaw Yewhalaw, and Eugenia Lo. Comparative transcriptomics reveal differential gene expression among *Plasmodium vivax* geographical isolates and implications on erythrocyte invasion mechanisms. *PLOS Neglected Tropical Diseases*, 18(1):1–21, 01 2024

J16. Cristian M. Galván-Villa, Francisco A. Solís-Marín, Karen Lopez, Janessa Cobb, Leopoldo Díaz-Pérez, Carlos R. Rezende-Ventura, Nataly Slivak, **Colby T. Ford**, and Daniel A. Janies. Occurrence of the Indo-West Pacific starfish *Luidia magnifica* (Echinodermata: Asteroidea) in the Mexican Pacific and a possible introduction to the Caribbean region. *Marine Biodiversity*, 54(1):1, Dec 2023

J15. Hsin Lee, Kwen-Shen Lee, Chia-Hsin Hsu, Chen-Wei Lee, Ching-En Li, Jia-Kang Wang, Chien-Chia Tseng, Wei-Jen Chen, Ching-Chang Horng, **Colby T. Ford**, Andreas Kroh, Omri Bronstein, Hayate Tanaka, Tatsuo Oji, Jih-Pai Lin, and Daniel Janies. Phylogeny, ancestral ranges and reclassification of sand dollars. *Scientific Reports*, 13(1):10199, Jun 2023

J14. **Colby T. Ford**, Shirish Yasa, Denis Jacob Machado, Richard Allen White III, and Daniel A. Janies. Predicting changes in neutralizing antibody activity for SARS-CoV-2 XBB.1.5 using *in silico* protein modeling. *Frontiers in Virology*, 3, 2023

J13. **Colby T. Ford**, Cheikh Cambel Dieng, Anita Lerch, Dickson Doniou, Kovidh Vegesna, Daniel Janies, Liwang Cui, Linda Amoah, Yaw Afrane, and Eugenia Lo. Genetic variations of *Plasmodium falciparum* circumsporozoite protein and the impact on interactions with human immunoproteins and malaria vaccine efficacy. *Infection, Genetics and Evolution*, 110:105418, 2023

J12. Dorcas Bredu, George K. Ahadzi, Donu Dickson, Sherik-fa Anang, Alexander Asamoah, George Asumah, Nana Prepah, Dorcas Obiri Yeboah, **Colby T. Ford**, Eugenia Lo, Keziah Laurencia Malm, and Linda Eva Amoah. Nationwide surveillance of Pfhrp2 exon 2 diversity in *Plasmodium falciparum* circulating in symptomatic malaria patients living in Ghana. *American Journal of Tropical Medicine and Hygiene.*, 2022

J11. **Colby T. Ford**, Denis Jacob Machado, and Daniel A Janies. Predictions of the SARS-CoV-2 Omicron Variant (B.1.1.529) Spike Protein Receptor-Binding Domain Structure and Neutralizing Antibody Interactions. *Frontiers in Virology*, 2, 2022

J10. Anthony Ford, Daniel Kepple, Jonathan Williams, Gabrielle Kolesar, **Colby T. Ford**, Abnet Abebe, Lemu Golassa, Daniel A. Janies, Delenasaw Yewhalaw, and Eugenia Lo. Gene Polymorphisms Among *Plasmodium vivax* Geographical Isolates and the Potential as New Biomarkers for Gametocyte Detection. *Frontiers in Cellular and Infection Microbiology*, 11, 2022

J9. **Colby T. Ford**, Gezahegn Solomon Alemayehu, Kayla Blackburn, Karen Lopez, Cheikh Cambel Dieng, Lemu Golassa, Eugenia Lo, and Daniel Janies. Modeling *Plasmodium falciparum* Diagnostic Test Sensitivity Using Machine Learning With Histidine-Rich Protein 2 Variants. *Frontiers in Tropical Diseases*, 2:28, 2021

J8. Anthony Ford, Daniel Kepple, Beka Raya Abagero, Jordan Connors, Richard Pearson, Sarah Auburn, Sisay Getachew, **Colby T. Ford**, Karthigayan Gunalan, Louis H. Miller, Daniel A. Janies, Julian C. Rayner, Guiyun Yan, Delenasaw Yewhalaw, and Eugenia Lo. Whole genome sequencing of *Plasmodium vivax* isolates reveals frequent sequence and structural polymorphisms in erythrocyte binding genes. *PLOS Neglected Tropical Diseases*, 14(10):1–27, 10 2020

J7. **Colby T. Ford**, Gabriel Lopez Zenarosa, Kevin B. Smith, David C. Brown, John Williams, and Daniel Janies. Genetic Capitalism and Stabilizing Selection of Antimicrobial Resistance Genotypes in *Escherichia coli*. *Cladistics*, 2020

J6. **Colby T. Ford**, Jia Wen, Daniel Janies, and Xinghua Shi. A Parallelized Strategy for Epistasis Analysis Based on Empirical Bayesian Elastic Net Models. *Bioinformatics*, 03 2020. btaa216

J5. **Colby T. Ford** and Daniel Janies. Ensemble machine learning modeling for the prediction of artemisinin resistance in malaria. *F1000Research*, 9(62), 2020

J4. Adriano de Bernardi Schneider, **Colby T. Ford**, Reilly Hostager, John Williams, Michael Cioce, Ümit V. Catalyürek, Joel O Wertheim, and Daniel Janies. StrainHub: A phylogenetic tool to construct pathogen transmission networks. *Bioinformatics*, 08 2019

J3. Wyatt T. Clark, Laura Kasak, Constantina Bakolitsa, Zhiqiang Hu, Gaia Andreoletti, Giulia Babbi, Yana Bromberg, Rita Casadio, Roland Dunbrack, Lukas Folkman, **Colby T. Ford**, David Jones, Panagiotis Katsonis, Kunal Kundu, Olivier Lichtarge, Pier L. Martelli, Sean D. Mooney, Conor Nodzak, Lipika R. Pal, Predrag Radivojac, Castrense Savojardo, Xinghua Shi, Yaoqi Zhou, Aneeta Uppal, Qifang Xu, Yizhou Yin, Vikas Pejaver, Meng Wang, Liping Wei, John Moult, Guoying Karen Yu, Steven E. Brenner, and Jonathan H. LeBowitz. Assessment of predicted enzymatic activity of $\alpha$-N-acetylglucosaminidase variants of unknown significance for CAGI 2016. *Human Mutation*, 40(9):1519-1529, 2019

J2. **Colby T. Ford**. An integrated phylogeographic analysis of the Bantu migration. *ProQuest Dissertations and Theses*, page 120, 2018

J1. Daniel Janies, **Colby Ford**, Lambodhar Damodaran, and Zacharey Faigen. Spread of Middle East Respiratory Coronavirus: Genetic versus Epidemiological Data. *Online Journal of Public Health Informatics*, 9(1), 2017

## *Preprints*

P4. Nicholas Santolla, Trey Pridgen, Prbhuv Nigam, and **Colby T. Ford**. peleke-1: A Suite of Protein Language Models Fine-Tuned for Targeted Antibody Sequence Generation. *bioRxiv*, 2025

P3. Sayal Guirales-Medrano, Kary Ocaña, Khaled Obeid, Rachel Alexander, **Colby T. Ford**, and Daniel Janies. H5N1 Influenza A is now promiscuous in host range and has improved replication in mammals. *bioRxiv*, 2025

P2. **Colby T. Ford**, Rachel Scott, Denis Jacob Machado, and Daniel Janies. Sequencing Data of North American SARS-CoV-2 Isolates Shows Widespread Complex Variants. *medRxiv*, 2021

P1. **Colby T. Ford**, Aneeta Uppal, Conor M. Nodzak, and Xinghua Shi. Prediction of the effect of naturally occurring missense mutations on cellular N-acetyl-glucosaminidase enzymatic activity. *bioRxiv*, 2019

## *Conference Papers and Presentations*

C15. Daniel Janies and **Colby T. Ford**. Accelerating Biodefense: AI-Driven Structural Biology for Rapid Development of Medical Countermeasures. *Military Health System Research Symposium*, August 2025. MHSRS-25-13625

C14. **Colby T. Ford**. Model. Package. Deploy. Repeat: A DevOps Approach to Biomolecular Scalability. *Boston Protein Design and Modeling Club Lecture*, July 2025

C13. **Colby T. Ford** and Shirish Yasa. Large-Scale AI and Physics Modeling of H5N1 Influenza and Neutralizing Antibody Interactions. *ASM Microbe*, June 2025

C12. Daniel Janies, Shirish Yasa, **Colby T. Ford**, Jannatul Ferdous, William Taylor, April Harris, Sam Kunkleman, Juan Bolanos, Kevin Kevin Lambirth, Denis Jacob Machado, Cynthia Gibas, and Jessica Schlueter. Evaluation of SARS-CoV-2 response at the University of North Carolina (UNC) at Charlotte using percent positivity data and viral genomic sequence data. *BioCARLA 2024*, October 2024

C12. **Colby T. Ford** and Daniel Janies. Rapid and Flexible Development of Medical Countermeasures with Computational Structural Biology and Artificial Intelligence. *DTRA Chemical and Biological Defense Science & Technology Conference*, December 2024

C11. **Colby T. Ford**. Lessons in Scalability: Cloud and HPC-Driven Computational Biology. *MITLL Biotechnology & Human Systems Seminar*, 2024

C10. **Colby T. Ford**, Eh So Wah, Jake Pfaffenroth, and Fidel Henriquez. Scaling Digital Biomarker Discovery with the Cloud and Wearable Devices. *Alzheimer's & Dementia*, 19(S18):e078069, 2023

C9. Kira Chiles, Candace S. Brown, and **Colby T. Ford**. The effects of exercise during a pandemic. *UNC Charlotte Undergraduate Research Conference*, 2023

C8. Adriano de Bernardi Schneider, **Colby T. Ford**, Jakob McBroome1, Jennifer Martin, Daniel Janies, Yatish Turakhia, and Russel Corbett-Detig. Understanding the spread of SARS-CoV-2 clusters through an integrated pipeline using UShER, Cluster Tracker and StrainHub. *Genetics Society of America - Population, Evolutionary, and Quantitative Genetics Conference*, 2022

C7. Cheikh Cambel Dieng, **Colby T. Ford**, Dickson Doniou, Jennifer Huynh, Lerch Anita, Daniel Janies, Linda Amoah, Yaw Afrane, and Eugenia Lo. Population structure and selection-mediated changes in *Plasmodium falciparum* by next-generation sequencing. *Annual Meeting of the American Society of Tropical Medicine and Hygiene*, 2020

C6.**Colby T. Ford**. Visualizing transmission networks of pathogens using phylogenetic data with StrainHub. *I Meeting of Systematics, Biogeography, and Evolution - Symposium of Virology in the SARS-CoV-2 era*, 2020

C5. Daniel Janies, **Colby T. Ford**, Kevin Smith, Gabriel Lopez Zenarosa, and John Williams. Evolution of gain and loss of antimicrobial resistance genes in *Escherichia coli*. *XXXVIII Annual Meeting of the Willi Hennig Society*, 2019

C4. Kevin Smith, **Colby T. Ford**, Gabriel Lopez Zenarosa, John Williams, and Daniel Janies. Phylogenetic analysis of the genetic variation of multi-drug resistant *Escherichia coli*. *National Council on Undergraduate Research*, 2019

C3. Jia Wen, **Colby T. Ford**, Daniel Janies, and Xinghua Shi. New strategies toward scaling up epistasis analysis on large-scale genomic datasets. *ACM Conference on Bioinformatics, Computational Biology, and Health Informatics*, 2018

C2. **Colby T. Ford** and Andy Lathrop. Predictive modeling of vegetation density using R and a cloud data platform. *Analytics for Social Good, University of Cincinnati*, 2017

C1. **Colby T. Ford**, Ming Xue, Peter M. Whiteley, Ward Wheeler, Daniel A. Janies, and Xinghua Shi. Visualizing linguistic disparity of Uto-Aztecan languages and Bantu languages. *Society for Anthropological Sciences Annual Meeting*, 2016

## *Software and Coding*

S5. **Colby T. Ford**, Samee Ullah, Dinler Amaral Antunes, and Tarsis Gesteira Ferreira. PyMOLfold: Interactive Protein and Ligand Structure Prediction in PyMOL, 2025

S4. **Colby T. Ford**. *ahab-lib* - Python library and CLI for interacting with the *ahab* cloud API and Kubernetes system, April 2024

S3. **Colby T. Ford**. *msgen* - R functions for interfacing with the Microsoft Genomics service in Azure, January 2021

S2. Adriano de Bernardi Schneider, **Colby T. Ford**, Reilly Hostager, John Williams, Michael Cioce, Ümit V. Catalyürek, Joel O Wertheim, and Daniel Janies. StrainHub: A phylogenetic tool to construct pathogen transmission networks. *Bioinformatics*, 08 2019

S1. **Colby T. Ford**, Jia Wen, Daniel Janies, and Xinghua Shi. A Parallelized Strategy for Epistasis Analysis Based on Empirical Bayesian Elastic Net Models. *Bioinformatics*, 03 2020. btaa216

## *Books, eBooks, and Chapters*

B2. **Colby T. Ford**. *Genomics in the Azure Cloud*. O'Reilly Media, Dec 2022. ISBN: 978-1-098-13904-9

E2. **Colby T. Ford** and Larry Baker. *Building a Genomics Data Lake in Azure*. BlueGranite, Jan 2021. URL: https://zenodo.org/record/4474520, DOI: 10.5281/zenodo.4474520

C1. Cheikh Cambel Dieng, **Colby T. Ford**, Jennifer Huynh, Linda E. Amoah, Yaw A. Afrane, Daniel A. Janies, and Eugenia Lo. Progress in *Plasmodium* genomics and current challenges in malaria control. In *Current Topics and Emerging Issues in Malaria Elimination*. IntechOpen, London, 2021. ISBNs: 978-1-83968-484-5, 978-1-83968-483-8, DOI: 10.5772/intechopen.96530

E1. **Colby T. Ford**. *Sparkitecture - A collection of "cookbook-style" scripts for simplifying data engineering and machine learning in Apache Spark.* GitBook, October 2019

B1. **Colby Ford**. *Caesura - late-intermediate piano technique book.* Lulu, March 2010. ISBN: 978-0-557-36832-7

*Technical Articles*

TA53. **Colby T. Ford**. Challenges in Effective Candidate Selection in AI-Based Antibody Design - Our Nipah Virus Experience, December 2025. Medium

TA53. **Colby T. Ford**. Foundry: The Top AI Announcement from Microsoft Ignite 2025, November 2025. Medium

TA52. **Colby T. Ford**. Run Azure AI Models on your Laptop with Foundry Local and Olive, October 2025. Medium

TA51. **Colby T. Ford**. Getting Started with Agentic AI with Azure Foundry Agent Service on Microsoft Fabric Data, September 2025. Medium

TA50. **Colby T. Ford**. 5 Tips for Fine-Tuning Protein Language Models (PLMs) on Azure Machine Learning, August 2025. Medium

TA49. **Colby T. Ford**. Private Protein Folding with Multiple Sequence Alignments in Azure AI Foundry, July 2025. Medium

TA48. **Colby T. Ford**. Creating an MCP Server for AI-Powered Bioinformatics Data Queries, June 2025. Medium

TA47. **Colby T. Ford**. Automating Genomics Data Management with Azure Storage Actions, May 2025. Medium

TA46. **Colby T. Ford**. Reading Genomics Data in Snowflake from Azure Storage Accounts (such as TCGA Expression Data), April 2025. Medium

TA45. **Colby T. Ford**. 3 Tips for Building Docker Images of AI Models or Complex Scientific Tools, March 2025. Medium

TA44. **Colby T. Ford**. New Week, New Molecular AI Models: BioEmu-1 and Evo 2, February 2025. Medium

TA43. **Colby T. Ford**. 4 Ways to Run Your Own DeepSeek AI Instance Today, January 2025. Medium

TA42. **Colby T. Ford**. Exploring the Azure Cloud's Free Service Offerings, January 2025. Medium

TA41. **Colby T. Ford**. Running AlphaFold3 At-Scale on High Performance Computing Clusters, December 2024. Medium

TA40. **Colby T. Ford**. Microsoft Ignite 2024: Top Announcements for Life Science Workloads, November 2024. Medium

TA39. **Colby T. Ford**. Quick Note: Health and Life Science Models are now in Azure AI Studio, October 2024. Medium

TA38. **Colby T. Ford**. Easily Scaling Container Workloads using Automatic Clusters in Azure Kubernetes Service, September 2024. Medium

TA37. **Colby T. Ford**. Building a Custom AI Chatbot with Azure AI Studio, August 2024. Medium

TA36. **Colby T. Ford**. Deploy Protein Language Models using Ollama, July 2024. Medium

TA35. **Colby T. Ford**. Building GPU-Enabled Clusters in Azure Kubernetes Service, June 2024. Medium

TA34. **Colby T. Ford**. Microsoft Build 2024: 4 Hot New AI Announcements!, May 2024. Medium

TA33. **Colby T. Ford**. Tips for Succeeding in the Microsoft for Startups Founders Hub Program, April 2024. Medium

TA32. **Colby T. Ford**. Simple Syncing Between Azure Data Lake and Synology NAS, February 2024. Medium

TA31. **Colby T. Ford**. Transfer Sequencing Data from Lab Vendors using sFTP and Azure Synapse Pipelines, January 2024. Medium

TA30. **Colby T. Ford**. 2023: A Biotech Year-End Review, December 2023. Medium

TA29. **Colby T. Ford**. 5 Exciting Azure Announcements from Microsoft Ignite 2023, November 2023. Medium

TA28. **Colby T. Ford**. Exploring AI-Based Protein Sequence Generation with EvoDiff from Microsoft Research, October 2023. Medium

TA27. **Colby T. Ford**. GPT on my Genome: Building a QnA System for Genomic Variants with Azure OpenAI, September 2023. Medium

TA26. **Colby T. Ford**. 4 Tips for Qualifying your Azure Data Lake for GxP use in the Life Sciences, August 2023. Medium

TA25. **Colby T. Ford**. Predicting the molecular interactions of lecanemab, the new FDA-approved monoclonal antibody for Alzheimer's disease., July 2023. Medium

TA24. **Colby T. Ford**. The Future of Manufacturing is Bio: Things I Learned in the Millyard., June 2023. Medium

TA23. **Colby T. Ford**. How Azure OneLake will revolutionize the way we manage and use -omics data, May 2023. Medium

TA23. **Colby T. Ford**. Deploying Databricks Dolly as an API on Azure Functions, April 2023. Medium

TA22. **Colby T. Ford**. Deploying Azure OpenAI and Building a Custom Science Article Recommender App with ChatGPT, March 2023. Medium

TA21. **Colby T. Ford**. What does ChatGPT think about using the Azure cloud for genomics?, January 2023. Medium

TA20. **Colby T. Ford**. 5 Quick Things You Didn't Know About the Microsoft Cloud for Healthcare, November 2022. Medium

TA19. **Colby T. Ford**. How to Deploy Shiny Apps in Azure and use your Domain Name, October 2022. Medium

TA18. **Colby T. Ford**. Using Microsoft Dev Box and Azure Compute Galleries for Bioinformatics, August 2022. Medium

TA17. **Colby T. Ford**. A Deep Dive Look Into Global Monkeypox Transmissions - from January to July 2022., July 2022. Medium

TA16. **Colby T. Ford**. Deploying Azure Databricks with a Virtual Network and Network Security Group, July 2022. Medium

TA15. **Colby T. Ford**. Quick Note: What's up with the new SARS-CoV-2 BA.2.75 and BA.5 variants?, July 2022. Medium

TA14. **Colby T. Ford**. Am I Hallucinating or Can AI Now Design Cancer-Curing Antibodies?, June 2022. Medium

TA13. **Colby T. Ford**. Scaling Genomics in the Cloud with Microsoft Azure, May 2022. Medium

TA12. **Colby T. Ford**. How to predict many protein structures with AlphaFold2 at-scale in Azure Machine Learning, January 2022. Medium

TA11. **Colby T. Ford**. Predicted Protein Interactions of the SARS-CoV-2 B.1.1.529 Variant with Neutralizing Antibodies, November 2021. Medium

TA10. **Colby T. Ford**. Protein Structure Prediction of the new B.1.1.529 SARS-CoV-2 Spike Variant with AlphaFold2, November 2021. Medium

TA9. **Colby T. Ford**. How Do We Fix Peer Review? (Because It's Broken...), October 2021. Medium

TA8. **Colby T. Ford**. I Asked GPT-3 to Write Some Chocolate Chip Cookie Recipes...and I Baked Them), June 2021. Medium

TA7. **Colby T. Ford**. What is a "variant" as it relates to COVID-19? (for non-geneticists), February 2021. Medium

TA6. **Colby T. Ford**. Automated Alignment and Variant Calling in Azure using the Microsoft Genomics service and the *msgen* R package, January 2021. Medium

TA5. **Colby T. Ford**. Better Evaluate COVID-19 Test Performance using Bayes Factors, December 2020. Medium

TA4. **Colby T. Ford**. Assessment of retail out-of-stock conditions using statistical inference. Technical report, Mariner, 2016

TA3. **Colby T. Ford** and Wayne Snyder. Revenue protection using machine learning for utilities management. Technical report, Mariner, 2015

TA2. **Colby T. Ford**. The allure of machine learning, now within reach in Microsoft Azure. Technical report, Mariner, 2015

TA1. **Colby T. Ford**. Demand forecasting using machine learning to reduce working capital. Technical report, Mariner, 2015

## *Professional Blog Posts and Case Studies*

B31. **Colby T. Ford**. Supporting the Fight Against Cancer, Tuple Unveils Anti-PD-1 Antibodies Fully Designed by AI, 2024. *Tuple Case Study*

B31. **Colby T. Ford**. MIT Lincoln Lab and Tuple Achieve Immense Scalability in SARS-CoV-2 Molecular Modeling with High-Performance Computing, 2023. *Tuple Case Study*

B30. **Colby T. Ford**. Case Study: Scaling Rare Disease Research in the Azure Cloud, 2022. *Tuple Case Study*

B29. **Colby T. Ford**. Using Azure CycleCloud and Batch for Scalable HPC Workloads, 2021. *BlueGranite Technical Blog*

B28. **Colby T. Ford**. Microsoft AI: Look, Listen, Innovate! Hackfest - BlueGranite's Smart City Solution, 2021. *BlueGranite Technical Blog*

B27. **Colby T. Ford**. Query Millions of Genomic Variants in Minutes with Azure Synapse, 2021. *BlueGranite Technical Blog*

B26. **Colby T. Ford**. Review: How 3 Life Science Organizations Harness the Power of the Cloud, 2021. *BlueGranite Technical Blog*

B25. **Colby T. Ford**. Introducing BlueGranite's Azure Data Factory Connector for Illumina BaseSpace, 2021. *BlueGranite Technical Blog*

B24. **Colby T. Ford**. Event Recap: Shape your Future with Azure Data and Analytics, 2020. *BlueGranite Technical Blog*

B23. **Colby T. Ford**. Reading Bioinformatics and Genomics Files in Power BI, 2020. *BlueGranite Technical Blog*

B22. Jon Gore, Thomas J. Weinandy, and **Colby T. Ford**. Take Back Your Data to Gain a Competitive Advantage, 2020. *BlueGranite Technical Blog*

B21. **Colby T. Ford**. A BlueGranite Blog Post Written (Mostly) by AI, 2020. *BlueGranite Technical Blog*

B20. **Colby T. Ford**. Give Your Genomics Pipeline a *Glow* Up in Azure Databricks, 2020. *BlueGranite Technical Blog*

B19. **Colby T. Ford**. SIR Modeling on Azure: COVID-19 Hospital Impact Model for Epidemics, 2020. *BlueGranite Technical Blog*

B18. **Colby T. Ford**. Let's Talk About COVID-19, 2020. *BlueGranite Technical Blog*

B17. **Colby T. Ford**. Comparing Azure Machine Learning Service and Azure Databricks, 2020. *BlueGranite Technical Blog*

B16. **Colby T. Ford**. Recap of rstudio::conf(2020) for Data Science and Machine Learning, 2020. *BlueGranite Technical Blog*

B15. **Colby T. Ford**. Scaling your Genomics Pipeline in the Cloud with Azure Databricks, 2019. *BlueGranite Technical Blog*

B14. **Colby T. Ford**. Migrating & Scaling Machine Learning Models to Azure Databricks for Cloud-Powered AI, 2019. *BlueGranite Technical Blog*

B13. **Colby T. Ford**. Introducing the Databricks Unified Analytics Platform for Genomics, 2018. *BlueGranite Technical Blog*

B12. **Colby T. Ford**. Recap: Spark+AI Summit 2018, 2018. *BlueGranite Technical Blog*

B11. **Colby T. Ford**. Cognitive Services Showcase: API Search Tools, 2018. *BlueGranite Technical Blog*

B10. **Colby T. Ford**. Let Azure do the Heavy Lifting on Your AI Workload, 2018. *BlueGranite Technical Blog*

B9. **Colby T. Ford**. Recap of rstudio::conf 2018, 2018. *BlueGranite Technical Blog*

B8. **Colby T. Ford**. Microsoft Azure & Databricks = Cloud-Scale Spark Power, 2017. *BlueGranite Technical Blog*

B7. **Colby T. Ford**. Maximize Your Customer Retention by Predicting Customer Churn, 2017. *BlueGranite Technical Blog*

B6. **Colby T. Ford**. Become the Maestro of your Genomics Workflow with Bioconductor and Microsoft R Server, 2017. *BlueGranite Technical Blog*

B5. **Colby T. Ford**. Publishing Predictive Web Services with Microsoft R Server, 2017. *BlueGranite Technical Blog*

B4. **Colby T. Ford**. Data Visualization for Bioinformatics with R in Power BI, 2017. *BlueGranite Technical Blog*

B3. **Colby T. Ford**. Webinar Recap: Distributed Computing & R Server, 2017. *BlueGranite Technical Blog*

B2. **Colby T. Ford**. SAS Enterprise Guide vs. Microsoft Azure Machine Learning, 2017. *BlueGranite Technical Blog*

B1. **Colby T. Ford**. ImpoRting and ExpoRting: Getting Data Into and Out of R, 2017. *BlueGranite Technical Blog*

# Conferences, Training, Press, and Speaking Engagements

| | | | |
|---|---|---|---|
| Nov. 2025 | Microsoft Ignite - AI Infrastructure and HPC | *Speaker* | San Francisco, CA |
| Nov. 2025 | Evolved AIxBio Global Sprint Hackathon | *Participant* | Online |
| Oct. 2025 | 7th Molecular Machine Learning Conference (MoML) @ MIT | *Presenter* | Cambridge, MA |
| Sep. 2025 | posit::conf(2025) | *Attendee* | Atlanta, GA |
| Sep. 2025 | Charlotte Biomedical Sciences Symposium | *Speaker* | Charlotte, NC |
| Jul. 2025 | WBTV Interview on AI-based Bird Flu Research | *Interviewee* | Charlotte, NC |
| Jul. 2025 | Boston Protein Design and Modeling Club | *Speaker* | Cambridge, MA |
| Jun. 2025 | ASM Microbe 2025 | *Speaker* | Los Angeles, CA |
| May 2025 | Microsoft Build - Open-Source/Linux on Azure | *Speaker* | Seattle, WA |
| Apr. 2025 | US News Report on H5N1 Avian Influenza | *Interviewee* | Online |
| Mar. 2025 | Techstars - Startup Weekend AI & Life Sciences | *Speaker* | Wins-Salem, NC |
| Jan. 2025 | Microsoft AI Tour - Azure Application Platform | *Speaker* | New York, NY |
| Jan. 2025 | Microsoft Empire State of AI Event | *Attendee* | New York, NY |
| Dec. 2024 | DTRA Chemical and Biological Defense Science & Tech Conf. | *Presenter* | Ft. Lauder., FL |
| Nov. 2024 | Microsoft Ignite | *Host* | Chicago, IL |
| Nov. 2024 | UNCC Center for Humane AI Studies Seminar | *Speaker* | Charlotte, NC |
| Oct. 2024 | UNCC DSBA 6211 Guest Lecture | *Speaker* | Charlotte, NC |
| Oct. 2024 | 8th Int. Conf. on Drug Discovery | *Speaker* | Boston, MA |
| Oct. 2024 | MITLL Biotechnology & Human Systems Seminar | *Speaker* | Boston, MA |
| Sep. 2024 | UNCC Biomedical Sciences Symposium | *Speaker* | Charlotte, NC |
| Aug. 2024 | posit::conf(2024) | *Attendee* | Seattle, WA |
| Jul. 2024 | AAIC 2024 Panel on LLMs in Dementia Care | *Host/Speaker* | Philadelphia, PA |
| May 2024 | Nextflow Summit 2024 | *Speaker* | Boston, MA |
| May 2024 | Microsoft Build | *Attendee* | Online |
| May 2024 | NIH Clinical and Translational Serology Task Force Meeting | *Speaker* | Online |
| May 2024 | London Biotechnology Show | *Speaker* | London, UK |
| Mar. 2024 | Leaders of B2B Podcast - Episode 212 | *Interviewee* | Online |
| Mar. 2024 | Microsoft MVP Global Summit | *Awardee* | Redmond, WA |
| Mar. 2024 | Alz. Assoc. AI in Dementia Care Webinar | *Panelist* | Online |
| Feb. 2024 | UNCC DSBA 3000 Lecture on Git | *Instructor* | Charlotte, NC |
| Jan. 2024 | Microsoft AI Tour - Azure Machine Learning Studio | *Speaker* | New York, NY |
| Nov. 2023 | Microsoft Ignite | *Attendee* | Redmond, WA |
| Oct. 2023 | UNCC Seminar: Gitting Started with Git | *Instructor* | Charlotte, NC |
| Sep. 2023 | posit::conf(2023) | *Speaker* | Chicago, IL |
| Jul. 2023 | Alzheimer's Association International Conference 2023 | *Presenter* | Amsterdam, NL |
| Jun. 2023 | ARMI National Conference on the Future of Biofabrication | *Speaker* | Manchester, NH |
| Jun. 2023 | MITLL Biotechnology and Resilient Human Systems Workshop | *Attendee* | Boston, MA |
| Jun. 2023 | Data + AI Summit 2023 | *Attendee* | San Francisco, CA |
| Apr. 2023 | Microsoft MVP Global Summit | *Awardee* | Redmond, WA |
| Jan. 2023 | NC HIMSS Event | *Participant* | Charlotte, NC |
| Nov. 2022 | Microsoft Cloud for Healthcare Event (TTT) | *Participant* | Seattle, WA |
| Oct. 2022 | UNCC Seminar: Gitting Started with Git | *Instructor* | Charlotte, NC |
| Jul. 2022 | Alzheimer's Association International Conference 2022 | *Panelist* | San Diego, CA |
| Jul. 2022 | rstudio::conf(2022) | *Attendee* | Washington DC |
| Jul. 2022 | Microsoft Inspire | *Attendee* | Online |
| Feb. 2022 | United Nations ITU AI for Good Programme | *Speaker* | Online |
| Jan. 2022 | WIRED Interview on Omicron Modeling | *Interviewee* | Online |
| Dec. 2021 | The Economist Interview on Omicron Modeling | *Interviewee* | Online |
| Nov. 2021 | Microsoft Ignite | *Attendee* | Online |
| Oct. 2021 | Microsoft Research Summit | *Attendee* | Online |
| Jul. 2021 | Alzheimer's Association International Conference 2021 | *Attendee* | Denver, CO |
| Jul. 2021 | Microsoft Ignite 2021 | *Attendee* | Online |
| May 2021 | Data + AI Summit 2021 | *Attendee* | Online |
| Mar. 2021 | Microsoft AI: Look, Listen, Innovate! Solution Hackathon | *Participant* | Online |

| Jan. 2021 | Lenoir NewsTopic Interview | *Interviewee* | Online |
|---|---|---|---|
| Jan. 2021 | rstudio::global(2021) | *Attendee* | Online |
| Jan. 2021 | BlueGranite AI-in-a-Day Training Event | *Speaker* | Online |
| Oct. 2020 | BlueGranite Loan Risk Analysis Webinar | *Speaker* | Online |
| Sep. 2020 | TEDxUNCCharlotte | *Speaker* | Charlotte, NC |
| Aug 2020 | BlueGranite Scaling Genomic Analyses in Azure Webinar | *Speaker* | Online |
| Jul. 2020 | SBE Symposium: Virology in the SARS-CoV-2 era | *Speaker* | Online |
| Jun. 2020 | Spark + AI Summit 2020 | *Speaker/Panelist* | Online |
| May 2020 | UCSD HIV Dynamics Conference | *Speaker* | Online |
| May 2020 | CBS News COVID-19 Interview | *Interviewee* | Online |
| Apr. 2020 | WBTV COVID-19 Interview | *Interviewee* | Online |
| Jan. 2020 | rstudio::conf(2020) | *Attendee* | San Francisco, CA |
| Jan. 2020 | PyData Charlotte | *Speaker* | Charlotte, NC |
| Nov. 2019 | UNCC Data Science Initiative Git Workshop | *Speaker* | Charlotte, NC |
| Oct. 2019 | UNCC CCI Ph.D. Open House Panel | *Panelist* | Charlotte, NC |
| Jul. 2019 | Databricks Retail Webinar | *Speaker* | Online |
| Jun. 2019 | Azure Databricks Training Event | *Speaker* | Detroit, MI |
| Jun. 2019 | Azure Databricks Training Event | *Speaker* | Charlotte, NC |
| Jun. 2019 | BlueGranite Azure Databricks Retail Webinar | *Speaker* | Online |
| May 2019 | CECHS Commencement | *Speaker* | Lenoir, NC |
| Apr. 2019 | Azure Databricks Training Event | *Speaker* | Chicago, IL |
| Mar. 2019 | Microsoft Azure AI Hackfest | *Attendee* | New York, NY |
| Jan. 2019 | rstudio::conf(2019) | *Attendee* | Austin, TX |
| Sep. 2018 | Microsoft Ignite | *Attendee* | Orlando, FL |
| Sep. 2018 | Big Data Ignite | *Speaker* | Grand Rapids, MI |
| Jun. 2018 | Spark + AI Summit 2018 | *Attendee* | San Francisco, CA |
| Jan. 2018 | rstudio::conf(2018) | *Attendee* | San Diego, CA |
| Nov. 2017 | Nissan Analytics Expo | *Speaker* | Nashville, TN |
| Oct. 2017 | BlueGranite Retail Webinar | *Speaker* | Online |
| Mar. 2017 | BlueGranite Distributed Computing Webinar | *Speaker* | Online |
| Mar. 2017 | Society for Applied Anthropology Conference | *Speaker* | Santa Fe, NM |
| Feb. 2017 | Analytics for Social Good - U. Cincinnati | *Speaker* | Cincinnati, OH |
| Sep. 2016 | Advanced Pharma Analytics | *Attendee* | Newark, NJ |
| Sep. 2015 | Microsoft Cortana Analytics Conference | *Attendee* | Seattle, WA |
| Nov. 2014 | Microsoft Roadmap Event | *Speaker* | Charlotte, NC |

## Skills

| | |
|---|---|
| Languages: | Python • R • SQL • Javascript • SAS • Visual Basic |
| High Performance Computing: | Spark (Databricks) • Kubernetes • CUDA • Slurm • MPI |
| Cloud Computing: | Microsoft Azure • AWS • Docker • Terraform • Bicep/ARM |
| Visualization: | Tableau • Power BI • Shiny • ggplot2 • D3.js |
| Markup/Web: | Markdown • LaTeX • HTML5 • CSS3 |
| Bioinformatics: | RNA-seq • scRNA-seq • WES/WGS • Phylogenetics • Haplotyping |
| Computational Biology: | Protein Design • Antibody-Antigen Docking • Drug Sensitivity Modeling |

# Professional Memberships
*Societies*

| | |
|---|---|
| 2013-Present | The Society for Industrial and Applied Mathematics |
| 2014-Present | The American Statistical Association |
| 2016-2017 | The Society for Anthropological Sciences |
| 2018-2019 | American Association for the Advancement of Science |
| 2020-Present | International Society for Computational Biology |
| 2021-Present | International Society for Infectious Diseases |
| 2021-2025 | International Society to Advance Alzheimer's Research and Treatment |
| 2025-Present | American Society for Microbiology |

*Boards*

| | |
|---|---|
| 2015-2017 | UNCC Data Science Initiative Advisory Board |
| 2015-2016 | Northeastern University LEVEL Advisory Board |
| 2022-2023 | American Cancer Society - Associate Board of Advisors |
| 2025-Present | Piper Strong Pediatric Cancer Foundation - Board of Advisors |

# Student Advising

| | | | |
|---|---|---|---|
| Jan. 2019 - May 2019 | Jainmary Jose | Cloud Computing Teaching Assistant | UNCC |
| Aug. 2019 - Dec. 2019 | Anjali Khushalani | Cloud Computing Teaching Assistant | UNCC |
| Jan. 2020 - May 2020 | Kovidh Vegesna | Data Science Practicum Intern | UNCC |
| May 2020 - Sep. 2020 | Somesh Kale | Developer Intern | Amissa |
| May 2020 - Sep. 2020 | Heet Detroja | Developer Intern | Amissa |
| May 2020 - Sep. 2020 | Chaitanya Darade | Developer Intern | Amissa |
| Sep. 2020 - May 2021 | Adesoji Ademiluyi | Bioinformatics Research Assistant | UNCC |
| Sep. 2020 - Oct. 2021 | Eh So Wah | Developer Intern | Amissa |
| Jan. 2022 - May 2022 | Paige Oldiges | Cloud Computing Teaching Assistant | UNCC |
| Jun. 2022 - Sep. 2022 | Carter DeMordaunt | Bioinformatics Intern | Tuple |
| Jan. 2023 - May 2023 | Utwej Sai Nalluri | Cloud Computing Teaching Assistant | UNCC |
| Aug. 2024 - Dec. 2024 | Alexander Palmer | Cloud Computing Teaching Assistant | UNCC |
| Jan. 2025 - May 2025 | Nicholas Santolla | Data Science Practicum Intern | UNCC |
| May 2025 - Aug. 2025 | Trey Pridgen | Bioinformatics/AI Intern | Tuple |
| May 2025 - Aug. 2025 | Prbhuv Nigam | Bioinformatics/AI Intern | Tuple |
| Aug. 2025 - Dec. 2025 | Geetha Marri | Cloud Computing Teaching Assistant | UNCC |

# Awards

| | | |
|---|---|---|
| Apr. 2022 | 40 under 40 | Charlotte Business Journal |
| Apr. 2022 | Impact Award | Seagen, Inc. |
| Mar. 2023 | Alumnus of the Year | UNC Charlotte |
| Apr. 2023 | Most Valuable Professional (MVP), Azure | Microsoft |
| Jun. 2023 | Impact Award | Seagen, Inc. |
| Feb. 2024 | The Fire Award Honoree (Amissa) | CharlotteInno |
| Jul. 2024 | Most Valuable Professional (MVP), Azure + AI | Microsoft |
| Jul. 2024 | Nextflow Ambassador | Seqera |
| Jul. 2025 | Most Valuable Professional (MVP), Azure ML, AI, HPC Infrastructure | Microsoft |

# Certifications

## *Technical Certifications*

| | | |
|---|---|---|
| May 2018 | Databricks Certified Developer - Apache Spark 2.x for Python | Certification #: 53873 |
| Nov. 2019 | Microsoft Azure Data Scientist Associate (DP-100) | Exam Writer |
| Sep. 2020 | Microsoft Data Science Partnership Program | Custom Core Certification |
| Oct. 2020 | Microsoft Azure AI Engineer Associate (AI-100) | Certification #: H532-5207 |
| Oct. 2020 | Microsoft Azure AI Fundamentals (AI-900) | Certification #: H533-2414 |
| Nov. 2020 | Databricks Partner Program - Developer Champion | Certification #: 917207 |
| Feb. 2021 | Microsoft Certified Trainer | Certification #: 17875868 |
| Aug. 2025 | Snowflake SnowPro Core | Certification #: S107097-250809-COF |
| Oct. 2025 | Microsoft Azure ML Engineer Associate (DP-100) | Exam Writer |

## *Research Certifications*

| | | |
|---|---|---|
| Nov. 2020 | CITI Program - Principal Investigators BSS | Record ID: 39539394 |
| Feb. 2023 | CITI Program - Biomedical Sciences: Responsible Conduct of Research | Record ID: 54594415 |
| Feb. 2023 | CITI Program - Biomedical Investigators and Research Study Team | Record ID: 54601364 |
| Nov. 2024 | CITI Program - Social & Behavioral Research (IRB) | Record ID: 65751859 |
| Nov. 2020 | CITI Program - Institutional Biosafety Committee (IBC) Members BSS | Record ID: 39539396 |
| Jun. 2021 | CITI Program - Good Clinical Practices (GCP) | Record ID: 43096988 |
| Feb. 2023 | CITI Program - Biomedical Sciences: Responsible Conduct of Research | Record ID: 54594415 |
| Nov. 2020 | CITI Program - Shipping and Transport of Regulated Biological Materials | Record ID: 50646437 |
| Apr. 2024 | CITI Program - Biomedical Research (IRB) | Record ID: 58586217 |
| Dec. 2024 | CITI Program - Data or Specimens Only Research (IRB) | Record ID: 66353578 |
| Dec. 2024 | CITI Program - Animal Biosafety | Record ID: 71427713 |
| Oct. 2025 | CITI Program - Principal Investigators BSS | Record ID: 71427711 |
| Oct. 2025 | CITI Program - Laboratory Personnel BSS | Record ID: 71427712 |
| Oct. 2025 | CITI Program - Recombinant and Synthetic Nucleic Acid Molecules | Record ID: 71427714 |
| Oct. 2025 | CITI Program - USDA Permits | Record ID: 71427715 |

# Peer Review Activity

## *Scientific Journals*

| | |
|---|---|
| American Chemical Society | ACS Omega |
| BioMed Central | Genomic Data |
| Frontiers in Pediatrics | Pediatric Infectious Diseases |
| Frontiers in Chemistry | Chemical Biology |
| Frontiers in Immunology | Vaccines and Molecular Therapeutics |
| Frontiers in Physiology | Red Blood Cell Physiology |
| Frontiers in Medicine | Infectious Diseases: Pathogenesis and Therapy |
| Frontiers in Public Health | Infectious Diseases: Epidemiology and Prevention |
| Science Advances | Biomedicine and Life Sciences |
| Nature | Scientific Reports |

## *Grant Reviews*

| | | |
|---|---|---|
| NIH SBIR/STTR | Biobehavioral Processes | 2025/01 ZRG1 BP-C (10) B |

## Public Sequence Contributions

| | | | | |
|---|---|---|---|---|
| NCBI SRA | BioProject: PRJNA783000 | *P. falicparum* CSP/ MSP-1 amplicon sequences | Ghana | 90 samples |
| NCBI SRA | BioProject: PRJNA784582 | *P. vivax* transcriptomes | Ethiopia | 10 samples |
| GenBank | Accessions: OQ308838 to 53 OQ339140 to 49, OQ341668 to 74 | *Clypeasteroida* mtDNA and rRNA | Taiwan | 32 samples |
| NCBI GEO | Study: GSE252307 | *D. rerio* MECP2 mutant/wild type transcriptomes | United States | 20 samples |

# Funding

| | |
|---|---|
| Apr. 2025 - Sep. 2025 | *Tuple Summer Internship Funding: AI Enabled Protein Design and Targeted Antibody Development*<br>NCBiotech Industrial Internship Program, $4,000, Funded: 2025-IIP-0021 |
| Oct. 2024 - Sep. 2026 | *Empowering Advanced Alzheimer's Disease and Dementia Research Through Remote Patient Monitoring and Cloud-Based Wearable Devices*<br>NIH\|NIA SBIR Phase II, $2,336,486, Funded: 2R44AG072981-02A1 |
| Aug. 2024 - Jul. 2025 | *Augmented Preclinical Alzheimer's Disease Detection Through Wearable Health and Driving Behavior Data*<br>NIH\|NIA SBIR Phase I, $505,516, Funded: 1R43AG087803-01A1 |
| Aug. 2023 - Jul. 2024 | *Entomological Surveillance Dashboard, Harnessing Geographic Information Systems to Modernize Military Entomology*<br>US DoD\|Army, $150,000, Funded: W91YTZ23P0058 |
| Aug. 2021 - Jul. 2023 | *A Multifaceted Digital Health Application to Advance Alzheimer's Disease Patient Monitoring, Safety, Caregiving, and Research*<br>NC SBIR Match, $75,000, Funded: 72494247 22-017 |
| Aug. 2021 - Jul. 2023 | *A Multifaceted Digital Health Application to Advance Alzheimer's Disease Patient Monitoring, Safety, Caregiving, and Research*<br>NIH\|NIA SBIR Phase I, $495,787, Funded: 1R43AG072981-01A1 |
| Apr. 2021 - Sep. 2022 | *Investigating the Utility of Digital Biomarkers with Wearable Devices and Artificial Intelligence in Alzheimer's Disease and other Neurological Disorders*<br>NSF\|I-Corps, $50,000, Funded: 2127407 |
| May 2020 - Dec. 2020 | *Analytical Modeling of IoMT data to predict onset and progression of Alzheimer's*<br>UNCC SDS Seed Grant, $20,000, Funded: 2020009 |
| Jan. 2019 - May 2019 | *Azure Funding for Cloud Computing Course*<br>Microsoft, $30,000, Funded: 5745151 |
| Oct. 2014 - Present | *Various Business Incentive Funds (BIF), Partner Investment Engine (PIE) Funds, GoFast Funding, and End Customer Investment Funds (ECIF)*<br>Microsoft, >$750,000, Funded |