

JOY NYAANGA

Chicago, IL | (716) 908-4355 | jnyaan@gmail.com | www.joynyaanga.com

EDUCATION

Ph.D.	Northwestern University – Evanston, IL <i>Quantitative Biology</i>	Expected 2022
M.A.	Princeton University – Princeton, NJ <i>Molecular Biology</i>	2017 - 2018
B.S.	John Carroll University – University Heights, OH <i>Double Major: Biochemistry; Cell and Molecular Biology</i>	2013 - 2017

SKILLS

Computing: R, GitHub, Python, bash, AWS
Data science: data analysis, data mining, visualization, dashboarding
Statistics: regression models, maximum likelihood, gaussian mixture modeling, model selection

RELEVANT RESEARCH AND PROJECTS

Ph.D. Candidate Northwestern University	2018 - Present
<ul style="list-style-type: none">Investigate the genetic variation underlying differences in developmental growth using <i>Caenorhabditis elegans</i>Collaborate with mathematicians to build mechanistic models to explore complex growth relationshipsDesign and optimize a high-throughput experimental platform for the acquisition of developmental traitsDevelop and implement an R package to facilitate handling and visualization of image-based dataMentor and train six undergraduate and high school students on independent computational research projects	
Computational Biology/Data Science Intern Celsius Therapeutics	Summer 2021
<ul style="list-style-type: none">Evaluated lineage reconstruction and trajectory analysis methods in single-cell RNAseq dataBenchmarked and implemented multiple trajectory inference algorithms on clinical-stage data	
Masters Student Princeton University	2017 - 2018
<ul style="list-style-type: none">Probed RNA-protein interactions regulated by 8-oxoG to uncover cellular changes caused by oxidative stressModeled biochemical reactions in Python to study the dynamics of protein networks	
Summer Research Student Cleveland Clinic	Summer 2016
<ul style="list-style-type: none">Computationally identified mutations that altered N-glycosylation in factor VIII, a procoagulant proteinConstructed plasmids containing mutations of interest	
Undergraduate Researcher John Carroll University	2015 - 2016
<ul style="list-style-type: none">Studied lipid peroxidation of linoleic acid using gas chromatography – mass spectrometryPresented results in a university poster competition (awarded special merit)	

SELECT LEADERSHIP & OUTREACH

Graduate Teaching Assistant Northwestern University	2020 - 2021
<ul style="list-style-type: none">Collaborated with faculty to instruct 100+ students across three introductory biology coursesFacilitated in-class discussions, and provided verbal and written assessment on course progress	
Campus Tour Guide John Carroll University	2015 - 2017
<ul style="list-style-type: none">Managed correspondence with prospective students and parentsDemonstrated the importance of clear communication while leading campus walking tours and visit programs	

SELECT HONORS & AWARDS

NSF-Simons Center Scholar , Northwestern University <i>Fully funded scholar as part of the NSF Center for Quantitative Biology</i>	2019 – Present
Rev. George J. Pickel, S.J. Senior Chemistry Award , John Carroll University <i>Recognized for outstanding scholarship, leadership, integrity, and commitment</i>	2017

PUBLICATIONS

Peer-reviewed:
Nyaanga, J., Crombie, T. A., Widmayer, S. J. & Andersen, E. C. easyXpress: An R package to analyze and visualize high-throughput *C. elegans* microscopy data generated using CellProfiler. PLoS One 16, e0252000 (2021)
Preprint:
Nyaanga, J. et al. Highly scaled measurements of *C. elegans* development suggest that physical constraints guide growth trajectories and animal shape. bioRxiv 2021.04.01.438121 (2021) doi:10.1101/2021.04.01.438121