JUSTINE NGUYEN

justine.v.nguyen@gmail.com 503.201.4766

PhD candidate in Bioinformatics with extensive experience in statistical modeling, machine learning, and large-scale biomedical data analysis. Skilled in designing reproducible data pipelines and collaborating on multidisciplinary health research using clinical, genomic, and administrative datasets. NIH/NLM T15 trainee with a strong foundation in both computational methods and research communication.

EDUCATION

Oregon Health & Science University **Portland, OR**
Doctor of Philosophy *in Bioinformatics & Computational Biomedicine* *August 2025*

- Dissertation: Structural Prediction and Understanding of Ubiquitination Sites

Oregon Health & Science University **Portland, OR**
Master of Science *in Bioinformatics & Computational Biomedicine* *June 2020*

- Thesis: Novel Discovery of Bacterial Deubiquitinases from Primary Amino Acid Sequences

University of Oregon, Robert D. Clark Honors College **Eugene, OR**
Bachelor of Science *in Human Physiology, Minors in Biology and Chemistry* *June 2017*

- Thesis: Vascular Endothelial Growth Factor to Heart Ventricle Development

RESEARCH EXPERIENCE

PhD Candidate & Graduate Researcher, Oregon Health & Science University **Portland, OR**
Bioinformatics & Computational Biomedicine, Department of Medical Informatics and Clinical Epidemiology *Jul 2020 - Present*

- Designed and implemented deep learning models to predict post-translational protein regulation sites, using sequence data and high-throughput annotation pipelines.
- Conducted large-scale statistical analyses using cancer datasets, assessing mutation impacts on protein function and pathway regulation.
- Collaborated with faculty and cross-functional teams to define study goals, select analytical methods, and generate interpretable results for publication.

Master's Intern, Pacific Northwest National Laboratory **Richland, WA**
Computation Biology, Biological Sciences Division *Jun 2019 – March 2021*

- Built supervised machine learning models (SVMs) to identify bacterial proteins that disrupt host immune regulatory pathways.
- Evaluated predictive model performance using biological metrics; optimized input feature sets using domain-informed variables.
- Coordinated computational and wet-lab workflows, including protein purification and in vitro assay validation.
- Documented reproducible analysis pipelines and participated in collaborative tool development with bioinformatics and lab scientists.

Research Assistant II, Oregon Health & Science University **Portland, OR**
Microbiology and Immunology, Pruneda Lab *Nov 2018 – Jun 2021*

- Conducted functional studies on pathogen interference with host signaling using structural and biochemical assays.
- Purified and characterized proteins for downstream analysis, contributing to experimental design and hypothesis refinement.
- Supported manuscript preparation and collaborative research discussions.

Research Assistant II, Oregon Health & Science University **Portland, OR**
Vollum Institute, Mandel Lab *Jun 2017 – Sept 2018*

- Assisted in RNA-editing studies using mouse models and cellular systems to examine neurological gene regulation.
- Managed >20 mouse colonies; coordinated animal protocols and genetic tracking across multi-investigator projects.
- Performed molecular biology techniques including cloning, qPCR, and western blotting to support research goals.

Undergraduate Research Assistant, University of Oregon **Eugene, OR**
Institute of Molecular Biology, Stankunas Lab *Apr 2015 – June 2017*

- Investigated embryonic mouse development via VEGF pathway signaling, supporting tissue dissection and gene expression profiling.
- Gained foundational training in biological data collection and analysis; performed qPCR, primary cell culture, and data entry for wet-lab studies.

TEACHING AND VOLUNTEER EXPERIENCE

BMI 650 Computational Algorithms Teaching Assistant **Portland, OR**
Oregon Health & Science University, Department of Medical Informatics *Sept 2023 – Dec 2023*

- Taught three weeks of lecture, designed an assignment, graded for the term. Held office hours as needed to tutor students.

Human Physiology Teaching Assistant **Eugene, OR**
University of Oregon, Human Physiology Department *Sept 2016 – Dec 2016*

- Assisted in lecture and discussion by engaging with students. Designed and taught a discussion section.

Science Literacy Program Fellow **Eugene, OR**
University of Oregon *Sept 2016 – Dec 2016*

- Designed a lesson plan that was implemented to the lecture. Engaged in weekly journal club relating to pedagogy and active learning techniques

Biology Peer Tutor and Lab Assistant **Eugene, OR**
University of Oregon, Biology Department *Jan 2015 – Mar 2015*

- General Biology I: Cells, BI 211
- Assisted in lab activities for two lab sections each week. Held office hours for reviews and homework relating to basic cellular and genetic mechanisms

Lab Maintenance Aid **Eugene, OR**
University of Oregon, Institute of Ecology & Evolution, Bradshaw-Holzapfel Lab *Jan 2015 – Mar 2015*

- Tended populations of mosquito larvae and pupae

Peer Tutor and Library Volunteer **Beaverton, OR**
Beaverton City Library *Jan 2013 – Jun 2013*

- Mentored and tutored high school students in math, science, and English twice a week
- Shelved books to the main library and to the holds section

AWARDS AND HONORS

National Library of Medicine T15 LM 7088-30 Jul 2020 – Jun 2024

Vice President for Research and Innovation (VRPI) Fellowship Jun 2016 – Sept 2016
Office of the Vice President for Research and Innovation Summer Fellowship

Joseph K. Starr Scholarship *Sept 2013 – Jun 2015*
University of Oregon Scholarship

Sept 2013 – Jun 2017

Summit Scholarship
University of Oregon Scholarship

Jim and Donna More Scholarship *Sept 2013 – Jun 2014*
Beaverton High School Scholarship

PUBLICATIONS

- Pruneda JN, **Nguyen JV**, Nagai H, Kubori T. Bacterial usurpation of the OTU deubiquitinase fold. The FEBS Journal. 2023 Jan 13.
- Gill T, Stauffer P, Asquith M, Laderas T, Martin TM, Davin S, Schleisman M, Ramirez C, Ogle K, Lindquist I, **Nguyen J**. Axial spondyloarthritis patients have altered mucosal IgA response to oral and fecal microbiota. Frontiers in immunology. 2022 Sep 28;13:965634.
- Warren GD, Kitao T, Franklin TG, **Nguyen JV**, Geurink PP, Kubori T, Nagai H, Pruneda JN. Mechanism of Lys6 poly-ubiquitin specificity by the L. pneumophila deubiquitinase LotA. Molecular Cell. 2023 Jan 5;83(1):105-20.
- Gill T, Stauffer P, Asquith M, Laderas T, Martin T, Davin S, Ramirez C, Lindquist I, **Nguyen JV**, Planck S, Shaut C. HLA--B27 Is Associated with Altered Mucosal IgA Response to Oral and Fecal Microbiota in Patients with Axial Spondyloarthritis. InAR THRITIS & RHEUMATOLOGY 2021 Sep 1 (Vol. 73, pp. 87-88).
- Schubert AF, **Nguyen JV**, Franklin TG, Geurink PP, Roberts CG, Sanderson DJ, Miller LN, Ovaa H, Hofmann K, Pruneda JN, Komander D. Identification and characterization of diverse OTU deubiquitinases in bacteria. The EMBO journal. 2020 Aug 3;39(15):e105127.

ADDITIONAL SKILLS AND INFORMATION

Programming & Tools::	• R, Jupyter, Python, SQL, Bash, Git, Linux, SLURM
Statistical Methods:	• Regression, Survival Analysis, Classification, Machine Learning, Deep Learning, Network-based analyses
Data Engineering:	• ETL pipelines, High-performance computing, Data wrangling
Databases:	• SQL Server, NoSQL (some)
Software skills:	• Adobe Photoshop/Illustrator, GraphPad Prism, ImageJ
Languages:	• Vietnamese, fluent • Spanish, intermediate
Interpersonal skills:	• Collaboration, Effective communication, Adaptability, Time management
Programming:	• R, Jupyter, Python, Linux/Bash, Git (version controlling)
Laboratory skills (selected):	• Mouse genetics, Mouse husbandry/colony management, Microsurgery/dissection, Perfusions, Mammalian cell culture, Primary cell culture, Protein purification, qPCR, PCR, Western blotting, Immunofluorescence/Histology, Microscopy
Professional Development:	• Collaboration, Scientific Writing, Project Coordination/Management