

# Nobuaki Masaki

masakin@uw.edu

## EDUCATION

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### University of Washington

*Ph.D. in Biostatistics*

Seattle, WA

*September 2020 - June 2025 (Expected)*

### Carleton College

*B.A. in Statistics; GPA: 3.92/4.0; Phi Beta Kappa*

Northfield, MN

*September 2016 - June 2020*

## TEACHING

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### University of Washington

*Instructor*

Seattle, WA

- BIOST 311 (Sp24): Regression Methods in the Health Sciences

### University of Washington

*Teaching Assistant*

Seattle, WA

- BIOST 570 (F22): Advanced Regression Methods For Independent Data
- BIOST 533 (Sp22): Theory of Linear Models

### Carleton College

*Math Tutor*

Northfield, MN

*September 2018 - June 2019*

- Assisted students with class content and homework from Calculus, Linear Algebra, and Probability

### Carleton College

*Japanese Tutor*

Northfield, MN

*September 2016 - June 2018*

- Helped students improve their speaking skills through conversation

## RESEARCH

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### University of Washington

*Research Assistant; Advisor: Professor Sharon Browning*

Seattle, WA

*September 2021 - Current*

- Devised an expectation-maximization algorithm to estimate genotype error rates from trio data
- Derived parametric models to infer the mean tract length of gene conversions using maximum likelihood
- Simulated chromosomes to assess the bias of parameter estimates and coverage of bootstrap confidence intervals

### Fred Hutchinson Cancer Research Center

*Research Assistant; Advisors: Tracey Marsh, Ph.D., Professor Ziding Feng*

Seattle, WA

*September 2020 - September 2021*

- Assessed sensitivity and specificity of abbreviated MRI for hepatocellular carcinoma using surgical pathology as the gold standard
- Communicated with researchers from various sites to obtain and verify the accuracy of medical data

### Fields Institute

*Undergraduate Research Assistant; Advisor: Professor Andreas Hilfinger*

Toronto, ON

*July 2019 - August 2019*

- Simulated chemical reactions in cells such as the translation of mRNA using Markov chains
- Derived equations that can be used to solve for rates of chemical reactions in cells

## PUBLICATIONS

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Takeshi Yokoo, Nobuaki Masaki, Neehar D. Parikh, Barton F. Lane, Ziding Feng, Mishal Mendiratta-Lala, Chee Hwee Lee, Gaurav Khatri, Tracey L. Marsh, Kirti Shetty, Colin T. Dunn, Taim Al-Jarrah, Anum Aslam, Matthew S. Davenport, Purva Gopal, Nicole E. Rich, Anna S. Lok, and Amit G. Singal. "Multicenter Validation of Abbreviated MRI for Detecting Early-Stage Hepatocellular Carcinoma". In: *Radiology*. PMID: 36692401, p. 220917.

## COURSEWORK

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### University of Washington

Seattle, WA

*September 2020 - Current*

- STAT 581-583: Advanced Theory of Statistical Inference
- BIOST 570: Advanced Regression Methods for Independent Data
- BIOST 571: Advanced Regression Methods for Dependent Data
- BIOST 550-551: Statistical Genetics
- BIOST 533: Theory of Linear Models
- STAT 512-513: Statistical Inference
- BIOST 590: Biostatistical Consulting

## WORK EXPERIENCE

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### **Wells Fargo**

*Data Analysis Intern*

Minneapolis, MN

*November 2018 - December 2018*

- Automated cleaning process of historical ratings of municipal bonds and financial data in Python
- Implemented a neural network predicting credit ratings for municipal bonds in Python, where 90% of predicted ratings were within two categories of the actual ratings (difference between AAA and AA2)
- Presented findings and recommendations for integration of data science and machine learning into credit analysis and bond transactions to senior credit analysts

### **Toreta**

*Data Analysis Intern*

Tokyo, Japan

*June 2018 - August 2018*

- Queried large datasets (up to 1,000,000 rows) from Google BigQuery
- Built a multivariate logistic regression predicting customer attrition from app usage data in R (AUC = 70.50%)
- Presented model predictions and significant variables to the customer service team to identify customers with a high risk of service cancellation
- Developed strategies to prevent turnover based on model interpretation

## AWARDS

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### **3rd Place at Midwest Undergraduate Data Analytics Competition**

Minnesota State University, Mankato, MN

*Advisor: Professor Adam Loy*

*March 2019*

- Implemented an elastic net regression to predict levels of nitrate and total suspended solids (TSS) in Minnesota watersheds, using geographic and rainfall data
- Formulated an annual precipitation intensity index to observe correlation between heavy rainfall and TSS levels
- Gave an auditorium presentation about the methods used in our analysis and policy recommendations that may reduce pollution levels, such as improving farming practices

## SKILLS

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- **Software:** R, SQL, Python, Linux
- **Languages:** English, Japanese