

Nicholas Chandler

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EDUCATION

- **Berliner Hochschule für Technik** Berlin, Germany
Master of Science in Data Science; GPA: 4.0 (American), 1.0 (German)
Oct. 2024 - Oct. 2026
- **Western Washington University** Bellingham, WA, USA
Bachelor of Science in Computer Science; GPA: 3.96
Magna Cum Laude - ABET Accredited Program
Sept. 2020 - June 2024
Minor in Mathematics, Minor in Statistics, German Club, Cycling Club
- **North Seattle Community College** Seattle, WA, USA
Associate of Arts DTA; GPA: 3.4
Completed concurrently with high school via dual enrollment
Sept. 2018 - June 2020
- **Roosevelt High School** Seattle, WA, USA
High School Diploma; GPA: 3.3
FIRST Robotics, Automotive Technology Summer Course, Wrestling Team
Sept. 2016 - June 2020

EXPERIENCE

- **Western Washington University** Bellingham, WA
Computer Science Research Assistant
March 2023 - Present
 - **Machine Learning:** Worked on a team of 4 students under Professor Brian Hutchinson to prototype and produce a supervised deep learning pipeline in PyTorch which makes predictions on parameters of binary star systems given synthetic light curve data.
 - **Mitigating Model Uncertainty:** Implemented custom loss functions using ideas from probability theory and bayesian statistics and reparameterized the model weights to account for the uncertainty in model predictions.
- **Western Washington University** Bellingham, WA
Mathematics Research Assistant
Oct 2022 - Present
 - **Development of Statistical Tests:** Assisted Professor Kimihiro Noguchi in the development of a novel class of two-sample statistical tests. My responsibilities were predominantly to find conditions under which the test behaved well through a simulation study and to demonstrate use of the test on a cognitive psychology dataset.
 - **Distributed & Parallel Computing:** Found multiple speedups of the simulation code of over 300% through the use of parallel computing libraries in R and task distribution techniques using HTCondor.
- **Western Washington University** Bellingham, WA
Mathematics Tutor
Sept. 2022 - Present
 - **Tutoring Mathematics:** Assisted approximately 20 students per week on upper-level mathematics topics such as multi-variable calculus, linear algebra, probability theory, statistics, differential equations, and discrete mathematics.
 - **Team-Building:** Participated in weekly training covering team-building, interpersonal communication, and mathematics.

PROJECTS (INDEPENDENT)

Here I list a few of the most important class programming projects completed during my undergraduate education.

- **Arbitrarily Deep Neural Network (Numpy):** Built an arbitrarily deep neural network from conception for a machine learning course using python's numpy library. This required the implementation of the feed-forward behavior, loss functions, backpropagation, stochastic gradient descent, and minibatching in numpy without higher-level frameworks.
- **Automatic Stock Trader:** Built an automatic stock trader using SQL embedded in Java. It queried over 1 million instances of over 30 years of stock data from a MySQL database and executed a pre-specified trading strategy.
- **Elasti-Cache Web Server:** Built a web server which would take requests and cache the data for repeat uses from conception using C and UNIX sockets TCP functionality.

PRESENTATIONS & PUBLICATIONS

- **Presentation at WWU Scholar's Week 2024:** Presented with Professor Kimihiro Noguchi on our research regarding the application of a statistical test to reaction times data using a novel range-based statistic.
- **Presentation at PIMUC 2024:** Presented a slideshow on research regarding the application of a statistical test to reaction times data using a novel, range-based statistic.
- **Poster at JMM 2024:** Presented on the application of a novel class of statistical tests to reaction times data at the 2024 Joint Mathematics Meeting.
- **Poster at 2023 SIAM PNW Meeting:** Presented a poster concerning a simulation study to evaluate a novel class of statistical tests. This was a part of summer research done with Professor Kimihiro Noguchi.
- **Poster at WWU Scholar's Week 2023:** With my team I created a poster and presented on the state of our research regarding a machine learning pipeline to predict parameters of eclipsing binary star systems.
- **Presentation at PIMUC 2023:** Presented a slideshow on research regarding the development of a novel class of statistical tests at the PIMU Conference at Gonzaga University.

AWARDS & GRANTS

- **Latin Honors:** Graduated from my Bachelor's with a GPA of 3.96 (97th percentile) for which WWU awarded me the highest Latin honors at the institution, Magna Cum Laude.
- **Dean's List:** Have made the Dean's List for a sufficiently high grade point average most quarters of my Bachelor's degree at Western Washington University.
- **Mathematics Fellow - 2022-2023, 2023-2024:** Was awarded membership to the group of 21 mathematics fellows at Western Washington University's Mathematics Department for high achievement in Mathematics courses.
- **Arlan Norman Research Grant - Summer 2023:** Was awarded the Arlan Norman Research Grant from Professor Kimihiro Noguchi to aid in research efforts during Summer of 2023.

PROGRAMMING SKILLS

- **Languages:** Python, C, R, SQL, Java, Bash, Racket, Kotlin, HTML, CSS
- **Technologies:** UNIX, MS Windows, PyTorch, SciKitLearn, TensorFlow, HTCondor, Numpy, Pandas, TCP/IP, Jetpack Compose, Android Studio, Git

OTHER EDUCATIONAL EXPERIENCES

- **Android Developers Introduction to Mobile Development:** I created a series of apps through android's online course to learn more about mobile development, programming in Kotlin, and software engineering.
- **William Lowell Putnam Examination - December 2023:** Took the William Lowell Putnam Competitive Mathematics Examination at my school.
- **EF German Language School - Summer 2022:** Studied the German language in an immersive program in Munich, progressing to the B2 level (CEFR).
- **International Competitive Programming Competition - February 2022:** Was one of three people on the highest scoring team at my school during the 2022 International Collegiate Programming Competition.

OTHER ACHIEVEMENTS

- **Seattle Half Marathon November 2023:** Finished in the top 10% of runners at the Seattle Half Marathon with a time of 1 : 39 : 42 after 8 months of daily training
- **Bellingham Bay Marathon September 2023:** Completed the Bellingham Bay Marathon in 4 : 17 : 25 after 6 months of daily training.