CHLOE L. WEIERS

PRESENT ADDRESS
28 Center St. Apt A
Jersey City, NJ 07302
(612) 968-7143

PERMANENT ADDRESS
1260 Marshall Ave.
St. Paul, MN 55104

EDUCATION

Stevens Institute of Technology, Hoboken, NJ
Current PhD Candidate in Algebraic Cryptography
Selected relevant coursework includes: *Discrete Optimization, Foundations of Algebra, Quantum Algorithms, Mathematics of Post-Quantum Cryptography, Foundations of Cryptography, Advanced Algorithm Design and Implementation, Algorithmic Complexity, Intro to Network & Graph Theory, Data Structures, Fundamentals of Cybersecurity. TA for CS/MA 503 for four semesters, instructor for MA 121/122 for three semesters.*
G.P.A. 3.970/4.000

Northeastern University, Boston, MA
B.S. Mathematics, B.A. Music, September 2014 to December 2018
Selected relevant coursework includes: *Research Seminar in Mathematics, Mathematical Methods and Modeling, Cryptography, Differential Geometry, Group Theory, Fourier Series and PDEs, Complex Variables, Real Analysis, Linear Algebra, Number Theory, Probability and Statistics, Dynamical Systems, Differential Equations and Linear Algebra, Calculus I-III, Music Theory I-III, Conducting. Summa Cum Laude in both degrees.*
G.P.A. 3.881/4.000

New England Conservatory, Boston, MA
Professional Certificate in Flute Performance, January 2015 to December 2018
Completed Northeastern/New England Conservatory Joint Certificate Program. Studied flute privately in the studio of Judy Grant. Chamber music performer and collaborative musician in the School of Continuing Education.

University of Minnesota–Twin Cities, Minneapolis, MN
Post Secondary Education Option Participant, September 2013 to May 2014
Completed senior year of high school in the Post Secondary Education Option Program, an opportunity for qualifying advanced high school students to enroll full-time in college courses for academic enrichment.

HONORS AND AWARDS

Huntington 100, *April 2018*
Selected alongside 99 other students from a pool of almost 18,000 Northeastern University undergraduates. We were recognized for our years of leadership, community development, and global engagement. In addition to receiving this prestigious award, one of the highest and most selective honors bestowed by the University, I was also invited to play a solo unaccompanied flute piece at the induction ceremony as a featured performer.

Leonard L. Brown Excellence in Music Performance Award, *April 2018*
Singularly selected from all Northeastern University Music majors. Recognized for years of high-level flute and piccolo performance and musical leadership at both Northeastern and the New England Conservatory.

Early Research/Creative Endeavor Award, *September 2015*
After independently designing a program of study under the guidance of a faculty mentor in the Music Department, I received a grant from the Provost's Office for a research project entitled "Analyzing and predicting musical behavior with dynamical models and the Discrete Fourier Transform." I worked with topologically modeling and quantifying the magnitudes of pitch-class set perturba-

tions using traditional nonlinear dynamical models such as the van der Pol oscillator.

Presenter–RISE Convention 2016, *April 2016*
Presented independent research project from Early Research/Creative Endeavor Award at university-wide research convention.

Dean's List, *December 2014 to December 2018*

Dean's Scholarship, *September 2014 to December 2018*

Music Scholarship, *September 2014 to December 2018*

EXPERIENCE

Gradarius
Content Developer and Quality Assurance Specialist, May 2022 to present
Create and code interactive tutorials for Calculus problems. Assist in development of in-house AP Calculus AB course. Software QA.

Northeastern University Mathematics Department, Boston, MA
Grader, September 2018 to December 2018
Individually selected to grade quizzes and exams each week for two sections of Calculus II. I provide feedback for students and compile and enter student score data for the course instructor.

AIR Worldwide, Boston, MA
Risk Analyst Co-op: Insurance-Linked Securities, January 2017 to August 2017
- Performed remodelings of catastrophe bond issuances and resets using CATRADER, AIR's detailed modeling platform.
- Optimized risk profile for earthquake-triggering parametric bond and designed accompanying visualization for annual company conference.
- Queried loss data from SQL and analyzed data sets in Excel.
- Assisted in integrating loss data using Sweave, R, and LaTeX to automate internal reports.

Independent Mathematics Consultant
June 2016 to January 2017
Employed remotely by Gradarius: Stepwise Calculus Learning Platform to enter differential and integral Calculus problems and solutions into Gradarius' specialized online database using both LaTeX and a pre-formatted mathematics editor in collaboration with several other consultants.

Worldwide Center of Mathematics, LLC., Cambridge, MA
Assistant Director of Mathematical Content, January 2016 to June 2016
- Edited, proofread, and re-formatted odd-numbered solutions for Multivariable Calculus textbook using LaTeX.
- Authored new Pre-Calculus Blueprint.
- Created and presented mathematical content in videos, including a series on mathematical music theory and a series of Problem of the Week and Advanced Knowledge Problem of the Week solutions.
- Responded to mathematics-related questions from current and potential customers.

RESEARCH EXPERIENCE

Quantum cryptography, Fall 2017
Completed faculty-directed independent study in quantum cryptography under advisorship of Dr. Christopher King. Authored unpublished write-up of findings titled "Robustness of continued fractions in Shor's quantum order-finding algorithm".

Mathematical music theory, Spring 2016
Completed faculty-directed research in mathematical music theory under advisorship of Dr. Hubert Ho. Authored unpublished research write-up titled "Modeling pitch class perturbations with the van der Pol oscillator and the Discrete Fourier Transform". Presented research at RISE Convention 2016.

EXTRACURRICULAR ACTIVITIES

Northeastern University Wind Ensemble - *Secretary and President*
Northeastern University Symphony Orchestra
NU Stage Theater Company - *Pit orchestra musician*
Boston Flute Academy
Cambridge Symphony Orchestra
Trader Joe's - *Crew Member*

TECHNICAL SKILLS

C++ (proficient), JAVA (familiar), LaTeX (proficient), MATLAB (familiar), Python (familiar), R (familiar), Mathematica (familiar) Excel (familiar with VLOOKUPs, Pivot Tables, etc.).

INTERESTS

Playing flute and piccolo, learning and speaking Danish, reading Haruki Murakami novels, and doing mind-melting sudoku at mind-melting speeds.