

KAT POMPERMAYER

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EDUCATION

Barnard College of Columbia University | New York, NY

Expected Graduation: May 2022

BA, **Major:** Computer Science **Combination Track:** Music

GPA: 3.4

Selected Coursework: Advanced Programming (Systems Programming), Computing in Context, Calculus I & II, Data Structures in Java, Discrete Math, Fundamentals of Computer Systems, Linear Algebra, Music Theory II, Theory and Analysis of Jazz

Manhattan School of Music Cross-Registration Program | Jazz Piano | New York, NY

September 2018 - Present

PROFESSIONAL EXPERIENCE

Computer Science Researcher for Program Synthesis Project | Barnard PL Labs | NY, NY

May 2021- Present

- Build a WebAudio Live-Coding Drum Machine that runs in the browser
- Receive sponsorship from National Science Foundation to conduct research during the summer
- Design system that synthesizes functions from user data
- Develop frontend of tool to implement beautiful digital interface
- Develop backend of tool to add synthesis of new data types, such as rhythmic data and drum audio samples
- Lead weekly meetings and answer technical questions of four software engineers across different time zones
- Present the runtime efficiency and quality of synthesized functions to a team of computer science faculty and students
- Represent my team at PLIE '21 (Workshop on Programming Languages and Interactive Entertainment) and present to panel of experts in human computer interaction
- Publish a demo paper of our tool in scientific journal with the PLIE '21 workshop
- Conclude that program synthesis systems unlock possibilities of creative user expression in a digital interface

Tutor | Seattle, WA

March 2020 - December 2020

- Conduct tutoring in-person and remotely in the initial months of online education during COVID-19
- Provide individualized tutoring and academic support to three middle schoolers; tutor 20 hours per week
- Assist students in a wide variety of subjects, including math, writing, speech, and music

Piano Teacher | Seattle, WA and NY, NY

October 2016 - July 2020

- Develop personalized curriculum for 7 students weekly
- Facilitate musical literacy and enrichment; foster a love of playing the piano

Columbia University Democrats | *Canvasser* | Allentown, PA

November 2018

- Canvassed and phone-banked in PA's 7th Congressional District for five days before election day
- Analyzed and organized user input of 100 + from phone banking and canvassing
- Educated over one hundred potential voters and contributed to Susan Wild's congressional win

Seattle JazzEd | *Jazz Pianist* | Seattle, WA and NY, NY

January 2016 - Present

- Perform at weddings, corporate events, and other parties
- Acted as own booking agent, organized small groups of musicians to play gigs

LEADERSHIP & COMMUNITY INVOLVEMENT

Columbia University Glee Club | *Pianist and E-Board Member and* | New York, NY

February 2019 - March 2020

- Lead over ten singers through warm-up exercises and repertoire twice weekly
- Educate singers on pitches and rhythm to prepare for performances

Columbia University Afro-Cuban Ensemble | *Pianist* | New York, NY

September 2021 - Present

Columbia University Jazz Band | *Pianist* | New York, NY

September 2018 - May 2019

Seattle All-Star Girls Band | *Pianist* | Seattle, WA

September 2016 - May 2018

- Performed the music of Duke Ellington at Seattle's iconic stages (the Triple Door, Jazz Alley) for three consecutive years
- Featured segment on Seattle's local NPR and in Seattle Met Magazine

SKILLS AND INTERESTS

Computer: Git, C, Java, JavaScript, Python, SyGuS, HTML, CSS, Microsoft Office

Music: Jazz Piano, Composition, Performance

Interests: Program Synthesis, Artificial Intelligence, Human Computer Interaction