

JUNCHENG (VINCENT) LIU

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EDUCATION

University of Chicago Harris School of Public Policy

Chicago, Illinois

Master of Science in Computational Analysis and Public Policy

Expected June 2023

Relevant Coursework:

- CAPP 30239 Data Visualization for Public Policy (Fall)
- PPHA 36620: Applied Policy Communication Lab

- MACS 31900: AI Applications in Social Science (A-)
- PPHA 34600: Survey Questionnaire Design (A)

University of Minnesota Twin Cities

Minneapolis, Minnesota

Bachelor of Arts in Statistical Practice

May 2021

Bachelor of Science in Sociology of Law, Criminology, and Deviance

Membership: Phi Beta Kappa

Minor in Political Science

DirectTrack to Teaching, English as a Second Language (ESL) Teaching Track

GPA: 3.92/ 4.0

Dean's list: Fall 2017 - Spring 2021

CORE COMPETENCIES

- Technical: R, STATA, Python, git and Github, SQLite, Postgresql, web scraping, natural language processing, machine learning
- Technical: Data cleaning (*Tidyverse*, *Pandas*), data and geospatial visualization (static and interactive), statistics analysis
- Language: English (fluent), Mandarin (native)
- Others: Policy writing, strategic communications, storytelling

INTERNSHIP EXPERIENCE

Urban Institute

Hybrid (Remote and Washington, DC)

Data Science and Policy Intern at Center on Nonprofits and Philanthropy (CNP)

June 2022 – August 2022

- Developed a Nonprofit Sector In Brief Shiny data dashboard using R *Shiny* that embeds user inputs to shed light on the nonprofit landscape through interactive charts (*Plotly*), interactive maps (*Leaflet*), and dynamic tables (*DT*)
- Developed a flex dashboard using R *flex_dashboard* package that explored the nonprofit landscape on a 1-year scale (2019) and a 20-year scale (2002-2022) with publish-level interactive visualizations and storytelling
- Supported the Mission Matching (natural language processing) and Geospatial Visualization projects

Skokie School District 73½ (Education Pioneer)

Hybrid (Remote and Skokie, Illinois)

Financial Liaison Intern (Education Pioneer Fellow)

June 2022 – August 2022

- Developed a grant independently, including creatively writing a grant document, creating grant rubric sheets in Excel, and brainstorming application procedures, for the district to ease teachers' difficulties and reinforce district priorities
- Visualized district financial data with graphs like diverging bar charts and pie charts to show annual fiscal surplus and deficit

Crown School of Social Works

Chicago, IL

Research Assistant, the Smart Decarceration Initiative

February 2022 – June 2022

- Co-wrote a paper with other researchers for a qualitative project about schools as racialized organizations
- Supported data collection and data gathering for the CAT-MH project (System-wide Adaptive Mental Health Measurement and Risk Reduction for Probationers in Cook County, Illinois)

Breakthrough Twin Cities

Remote (Zoom)

Breakthrough Math Teaching Fellow

June 2020 – August 2020

- Taught 9th grade statistics class (name: Statistics in Social Justice) to 30+ 9th-grade students who lived in Twin Cities
- Wrote lesson plans, unit plan, and class slides for the class by borrowing data from surveys including ACS, Pew, and GSS
- Served as mentor for six BIPOC students and co-designed 5+ leadership activities with other teaching fellows

Juvenile Supervision Center, Department of Correction and Community Rehabilitation (DOCCR)

Hennepin County, MN

JSC Intern

August 2019 - March 2020

- Interviewed 9 juveniles with screening questions regarding socioeconomic backgrounds and drug and alcohol consumption to connect to government programs and other resources needed
- Conducted juvenile intake with probation officers and center staff to record the time and nature of juveniles' offenses
- Checked 8 juveniles' probation status in the online database and updated violation information

ACADEMIC PROJECTS

Diving into New York Times News Article at Four Time Points – Through natural language processing and deep learning

Final Project for MACS 31900: AI Applications In Social Science

March 2022 – June 2022

- Used Python *request* and *pandas* libraries to scrape the New York Times data and clean the dataset
- Utilized the *collection* library to count the most frequent tokens and bigrams, which were wrangled with the *nlTK* library
- Clustered data with K-means, tf-idf, and word2Vec with *sklearn* and *gensim* libraries
- Visualized the text data, clustering outputs, and deep learning with *wordcloud*, *seaborn*, and *tensorflow projectors*
- Developed helper functions to create text preprocessing pipeline and simplify natural language tasks

Police-Public Relation and Trust in Chicago Survey

Final Project for PPHA 34600: Survey Questionnaire Design

March 2022 – June 2022

- Developed a survey of 20 questions to measure Chicagoan's attitudes on the policing practice of Chicago Police Department officers and diverse police reform strategies under the supervision of Prof Bautista, Director of General Social Survey, NORC

Food in the Hood – A Cross Analysis of Food Security and Crime Level in 72 Chicago Neighborhoods

Final Group Project for CAPP 30122: Computer Science with Applications II

January 2022 – March 2022

- Utilized Python *Plotly* to produce a visualization report in Jupyter Notebook with 8+ interactive graphics to describe the food accessibility and crime level information of Chicago's 72 communities
- Used Python *Scipy* and *Statsmodel* libraries to perform multivariable regressions with R2 and AIC as selection criteria
- Wrangled data with the *Pandas* library and created geospatial graphs in Python with the *GeoPandas* library

A Diverging Road Ahead - An Examination of Police Power at the Street Level

Sociology Capstone Project for SOC 4994W: Independent Research

January 2021 - May 2021

- Operationalized the 2018 Police-Public Contact Survey data collected by the Department of Justice to research issues of policing with respect to race, gender, age, income, and neighborhood
- Synthesized 20+ sources including 5+ Supreme Court case rulings and pondered two suggestions for police reforms emphasizing community policing and accountability
- Applied regression and logistic regression designs in R to study racial profiling and neighborhood-targeted policing

COMMUNITY INVOLVEMENT

Justice Page Middle School

Virtual

Classroom Assistant

January 2021 – May 2021

- Facilitated in-class exercises with 35+ students in a 6th grade social study class and tutored English writing to 10+ students of divergent English levels

UCLA Covid-19 Behind Bars Data Project

Virtual

Data Science Volunteer, Immigration Detention Team

August 2020 – May 2021

- Produced time-series plots with moving averages in R by deploying *ggplot2* package to detect changes in active COVID cases, infection cases, and death counts at over 100 ICE detention facilities

Roosevelt High School

Minneapolis, MN

Classroom Assistant

September 2019 - December 2019

- Supported teachers in one 9th grade EL (English Language) and one 9th grade Algebra classes
- Graded 30+ students' vocabulary homework and tutored 10 students high-school algebra and geometry

Community United Against Police Brutality

Minneapolis, MN

Grassroots Organizer

October 2018 - September 2020

- Researched the Minneapolis Police Department body-worn camera policies and officers' fear-based training background to collect evidence of inappropriate use of force in Thurman Blevins' case
- Analyzed unjustified police shooting in Thurman Blevins' case through synthesizing information and reviewing witness statements, body-worn camera footages, and other evidence

Restorative Justice Community Action

Minneapolis, MN

Community Member

October 2018 - September 2020

- Offered 30+ restorative solutions to 20+ participants to facilitate reintegration into society
- Practiced a restorative justice approach focused on restoration and individual-community relationship to tackle crimes and recidivism rather than traditional punishment such as probation and imprisonment