

# HSIN YI “CINDY” CHEN

www.hsinyi-chen.com    hsinyi2015@gmail.com

## EDUCATION

---

### Columbia University

MD-PhD, Vagelos College of Physicians and Surgeons

New York, NY

*Expected 2028*

### Cornell University

B.S., *magna cum laude*, Biometry & Statistics

Minor in Music

*May 2019*

### Honors and Awards

Cornell Alumni Association of Atlanta Scholarship Recipient

Dean's List

2016, 2017

All semesters

## RESEARCH EXPERIENCE

---

### Yale School of Medicine, Department of Neurology

*Post-graduate Research Associate, PI: Dr. Jennifer Kim*

September 2019 - Present

*New Haven, CT*

- Analyzed the value of electroencephalogram and transcranial doppler ultrasounds in predicting vasospasm and delayed cerebral ischemia for patients with aneurysmal subarachnoid hemorrhage through data visualization, group based trajectory modeling, and multivariate logistic regression
- Developed code to extract transcranial doppler ultrasound data from electronic medical records output and compile data into panel data sets
- Presented and explained results during lab meetings and national conferences, such as the American Academy of Neurology 72nd Annual Meeting
- Created a 5-week lecture series for the Neurology department focusing on statistics for biomedical data, where topics ranged from parametric analysis to categorical data analysis, and survival analysis

### Columbia University Medical Center

*Research Assistant, PI: Dr. Denise Lee*

January 2018

*Remote*

- Led project analysis to determine whether there is a significant difference in bone mass density after parathyroidectomies in patients with atypical biochemical profiles of primary hyperthyroidism
- Fitted log-linear mixed models with and without effects modification
- Interpreted and explained model results to research team
- Created figures and tables; coauthored the resulting paper published in *Surgery*

### Cornell University, SC Johnson Graduate School of Management

*Research Assistant, PI: Dr. Clarence Lee*

January 2016 - May 2019

*Ithaca, NY*

- Generated methodology and code to quantify key metrics such as network effects in customer acquisition, customer lifetime value, and machine learning classifier performance
- Developed code in R and Python to process, simulate, analyze, and visualize data
- Collaborated with peers to conduct literature reviews

## PUBLICATIONS

---

**Chen HY**, Elmer J, Ghanta M, Valdery Moura J, Rosenthal ES, Zafar SF, Gilmore EJ, Hirsch LJ, Sheth KN, Petersen NH, Westover MB, Kim JA (Nov 2021). “Epileptiform abnormality and TCD information together improve DCI prediction after SAH.” *Neurology*. PMID: 34845057.

Baang HY, **Chen HY**, Herman AL, Gilmore EJ, Hirsch LJ, Sheth KN, Petersen NH, Zafar SF, Rosenthal ES, Westover MB, Kim JA (Sept 2021). “The utility of quantitative electroencephalography in detecting delayed cerebral ischemia after aneurysmal subarachnoid hemorrhage.” *Journal of Clinical Neurophysiology*. PMID: 34510093.

Lee D, Walker MD, **Chen HY**, Chabot JA, Lee JA, Kuo JH (Jan 2019). “Bone mineral density changes after parathyroidectomy are dependent on biochemical profile.” *Surgery*. PMID: 30327189.

## PRESENTATIONS

---

- “A Machine Learning Algorithm for Predicting Outcome after Subarachnoid Hemorrhage” 2021  
73rd Annual Meeting of the American Academy of Neurology  
Yale NeuroICU/Stroke Lab Meeting
- “Combining TCD and epileptiform abnormality information improves DCI prediction after SAH” 2020  
18th Annual Meeting of the Neurocritical Care Society  
72nd Annual Meeting of the American Academy of Neurology
- “Data Analysis for the Life Sciences” 2020  
Kim Lab Meetings (June-July 2020)

## PROFESSIONAL EXPERIENCE

---

**Cornell University, School of Industrial and Labor Relations** January 2017 - May 2019  
*Teaching Assistant, STSCI 2100: Introductory Statistics* Ithaca, NY

- Developed lesson plans with practice exercises based on course objectives and professor’s lectures
- Taught two weekly recitations of approximately 20 students each
- Facilitated course communication through holding weekly office hours, answering questions on the online class discussion board, and providing student feedback

**Booz Allen Hamilton** Summer 2017 & Summer 2018  
*Intern, Front End Developer* Atlanta, GA

- Lead developer in prototyping an optimized online information portal and a laboratory information dashboard for the Centers for Disease Control and Prevention (CDC)
- Identified gaps within the current CDC.gov website and CDC laboratory work flow through UX analysis and stakeholder interviews
- Developed taxonomy for the CDC website to categorize information such as diseases and healthcare notices using the National Library of Medicine’s Medical Subject Heading taxonomy (MeSH)
- Presented final solutions to a CDC c-suite executive and senior partners of Booz Allen Hamilton and placed in the top 10 (out of 70+ teams) in the Booz Allen Summer Games Challenge
- Coauthored a white paper on drones in GIS mapping to support potential future projects at the CDC

**Centers for Disease Control and Prevention (ATSDR/GRASP)** Summer 2016  
*Data Analyst Intern* Atlanta, GA

- Collected data for the Atlanta Beltline Project through surveying sidewalk and road conditions in various Atlanta neighborhoods
- Updated the CDC Social Vulnerability Index (SVI) Toolkit to reflect 2014 census updates
- Visualized data from the Atlanta Beltline Project in the context of social vulnerability index through ArcGIS

## CO-CURRICULAR ACTIVITIES

---

*Crisis Counselor*, Crisis Text Line January 2019 - Present

*Violist*, Civic Orchestra of New Haven October 2019 - July 2021

*Volunteer*, Cornell Alumni Association of Atlanta May 2019 - Present

*Mentor/Learning Partner*, CLASP January 2019 - May 2019

*Peer Advisor*, Cornell Department of Biological Statistics August 2018 - May 2019

*Volunteer*, Bridges Cornell Heights August 2018 - May 2019

*Volunteer*, Assured Hospice Care Summer 2018

*Violist and Poster Designer*, Cornell Chamber Orchestra August 2015 - January 2019

*Webmaster*, Project Hope at Cornell August 2016 - May 2017

*National Board Member*, Intercollegiate Taiwanese American Student Association August 2016 - May 2017

*Executive Board Member*, Cornell Taiwanese American Student Association August 2015 - January 2017

## **TECHNICAL STRENGTHS**

---

<b>Languages</b>	R (Expert), Python (Expert), STATA (Proficient), MATLAB (Proficient), HTML & CSS (Expert), Javascript (Proficient)
<b>Software/Tools</b>	LaTeX (Expert), Adobe Photoshop (Expert), QGIS (Expert), ArcGIS (Proficient)
<b>Statistical Methods</b>	Survival Analysis, Growth Curve Analysis, Categorical Data Analysis