ASHLEY KANG - CV

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https://ashleyk31.github.io/portfolio *(password: ashleykang)*/ |https://github.com/ashleyk31

EDUCATION

University of Michigan, Ann Arbor, MI
Master of Science in Information - Specialized in Big Data Analytics *Expected Graduation May 2027*

Wellesley College, Wellesley, MA
Bachelor of Arts in Data Science (Data Engineering Concentration) *August 2021 - May 2025*

- Relevant Courses taken include
  Statistics: Causal Inference, Regression Analysis and Statistical Models, Applied Data Analysis and Statistical Inference, Statistics and Data Analysis
  Computer Science: Data Structures, Machine Learning, Data Science for the Web, Computer Graphics, Databases with Web Interfaces, Computing for the Socio-Techno Web, Computer Programming and Problem Solving
  Mathematics: Multivariable Calculus, Linear Algebra, Differential Equations with Applied Linear Algebra, Combinatorics and Graph Theory

- **Extracurricular Activities:**
  Student Interdisciplinary Data Initiative (SIDI) organization (Publicity Chair)
  Wellesley Physical Education, Recreation, & Athletics - PERA (Home Events Filmer)
  Phocus Photography Club (Publicity Chair)
  Wellesley Southeast Asian Student Association (Publicity Chair)
  Wellesley Blue Jazz (Pianist)
  The Davis Museum (Student Visiting Assistant)
  Wellesley College New Student Orientation (Orientation Mentor for Class of 2026)

Massachusetts Institute of Technology (MIT), Cambridge, MA
Cross Registered Student *Fall 2022 - Fall 2024*

- Relevant courses taken include
  Cybersecurity, Gordon-MIT Engineering Leadership Program, The Law of AI, Big Data & Social Media

RESEARCH INTERESTS

My research interests include computer vision, emotion recognition in human-computer interaction, user behavior analysis, predictive modeling for user experience, as well as security analysis and cybersecurity.

RESEARCH EXPERIENCE & PROJECT

MIT Media Lab, Cambridge, MA
Fluid Interface Group Researcher *October 2024 - May 2025*

- Reconstructed visual design elements for the “Brain Sensing” art installation, utilizing graphic design and user experience principles to create impactful visual representations that effectively conveyed complex scientific concepts to a broader audience.
- Researched qualitative data analysis methods for a project focused on enhancing data interpretation from a behavioral study, applying advanced analytical tools to improve insights

Bluebike Summer Usage Pattern: Determinants of a Station’s Popularity (R)
Data Analyst *January 2025 - May 2025*

- Conducted comprehensive analysis of Bluebike usage data to identify key factors influencing station popularity
- Used R for data manipulation, statistical analysis, and visualization
- Developed a model that predicted station usage with 97% accuracy, contributing to improved resource allocation

MIT Sloan School of Management, Cambridge, MA
Quantitative Finance Research Assistant *June 2024 - August 2024*

- Collected, cleaned, and analyzed financial and market data from pharmaceutical companies, including trading status, historical performance, and acquisition/privatization trends, providing insights that helped inform the predictive model's parameters and enhance its accuracy.
- Built and organized a comprehensive dataset of over 6,000 entries using R for data cleaning and manipulation, ensuring high-quality data for analysis and supporting the successful implementation of the predictive model in real-world financial forecasting.

A Quantitative Analysis of TikTok Dance Trends' Viral Success (Pandas, NLTK)
Research Assistant *March 2024 - May 2024*

- Led a comprehensive study of TikTok video virality over time, focusing on the patterns and factors influencing the spread of dance trends, using Python and Pandas to process and analyze large datasets of video performance metrics (e.g., views, likes, shares).
- Used time series analysis to track how TikTok dance trends evolved over time, measuring the longevity of viral content and identifying potential predictors of viral success.
- Developed data-driven insights to inform content creators and marketers about the factors that maximize virality on TikTok

Exposure to News on TikTok: A Real User Data Analysis (Python, Selenium)
Research Assistant *February 2024 - March 2024*

- Leveraged web scraping techniques using Python and Selenium to collect large-scale user interaction data from TikTok, including user-following lists, liked posts, and engagement metrics.
- Replicated research from "Algorithmic Indifference: The Dearth of News Recommendations on TikTok" by analyzing TikTok's algorithm to investigate whether user data (e.g., interests, demographics) influences the recommendation of news-related content.
- Analyzed user behavior and algorithmic biases by cross-referencing recommended content against user profiles, identifying patterns in content visibility, and exploring whether the algorithm demonstrated bias against or limited exposure to news content.
- Performed sentiment analysis and other advanced text-mining techniques on content and comments to assess how TikTok's algorithm shaped user exposure to news, drawing on libraries like Pandas and NLTK for data processing and analysis.

Personalization Factors on TikTok (Python, Selenium)
Research Assistant *January 2024 - February 2024*

- Replicated the experiment from the paper "An Empirical Investigation of Personalization Factors on TikTok", using Python and Selenium to conduct an analysis of how different language settings on the TikTok platform influence the content recommendations on the For You Page.
- Used web scraping techniques to gather user interaction data and TikTok content suggestions, analyzing the impact of language settings on algorithmic biases and content diversity.
- Analyzed the impact of personalization algorithms on TikTok's content recommendation system, examining how language preferences could influence content prioritization and potential bias in the platform's algorithm

Carbon Emissions and Women in Government (R)
Research Assistant *September 2023 - December 2023*

- Researched the relationship between carbon emission rates and the percentage of women in government across different countries
- Used R to collect, clean, and analyze datasets from international environmental and political sources, contributing to discussions about gender diversity in government roles and its potential impact on climate policies.
- Applied statistical models to identify trends and correlations, and visualized data with R libraries to create insightful charts and graphs illustrating key findings

EMPLOYMENT & LEADERSHIP EXPERIENCE

University of Michigan College of Literature, Science, and the Arts, Ann Arbor, MI
Graduate Student Instructor *August 2025 - present*

- Led weekly lab sections for QMSS 201 Intro to Quantitative Methods in the Social Sciences, engaging ~20 students per session to deepen understanding of course material and foster critical thinking.
- Developed and graded assignments and exams, providing timely feedback to 40 students, ensuring fair assessment and supporting academic growth.

YW Boston, Boston, MA
Data and Impact Team Intern *May 2023 - July 2023*

- Migrated over 200 client questions from 7+ surveys into an organization-wide question bank, incorporating diverse question types, response formats, conditional logic, and frequency tracking to streamline data collection processes and improve survey consistency across the organization.
- Coordinated the planning and analysis of program data for 300+ participants across multiple initiatives, contributing to the development of YW Boston's first impact report, which provided key insights into program effectiveness and informed future strategic decisions.
- Designed and implemented a standardized attendance and tracking system for the board of directors, improving the efficiency of meeting management and ensuring accurate records for board activities, which helped enhance organizational transparency and accountability.
- Developed a new grants management system to oversee the administration of over $1 million in annual grant payments, streamlining grant tracking, reporting, and compliance processes, which improved operational efficiency and ensured more effective fund distribution.

Wellesley College Computer Science Department, Wellesley, MA
Teaching Assistant (T.A.) / Grader *September 2023 - May 2024*

- Served as an attached tutor for the course "Introduction to Game Design" (Spring 2024), providing office hours to support students, explaining complex concepts, and helping them improve their understanding and performance in both theoretical and applied topics.
- Graded assignments for the courses "Computing for the Socio-Techno Web" (Fall 2023), ensuring accuracy and consistency in grading while providing detailed feedback to help students improve their technical and analytical skills.

Department Administrative Assistant *September 2024 - December 2024*

- Managed administrative tasks for the CS111 course, including overseeing and proctoring weekly evening quizzes and retakes, ensuring a smooth testing experience for students while maintaining academic integrity.
- Coordinated room reservations and scheduling for testing accommodations, ensuring accessibility and compliance with student needs for all quizzes and exams.
- Handled photocopying, scanning, and document management to support course operations, ensuring materials were available for both students and instructors in a timely and organized manner.
- Provided reliable administrative support to instructors and course staff, ensuring that the logistics of the course ran efficiently and contributing to a positive and inclusive environment for all students in the CS department.
- Demonstrated strong organizational skills and dependability, fulfilling responsibilities consistently and ensuring that all tasks were completed accurately and on time, in line with department expectations.

SKILLS

Programming: Proficient in Python, Java, HTML/CSS, JavaScript, Familiar with C
Data Analysis and Visualization: R, Stata, MATLAB, PyTorch, MySQL, JMP Pro 13, Tableau, Power BI
Libraries: Selenium, Pandas, Numpy, Seaborn, sklearn, Matplotlib, PyTorch, NLTK,, OpenAI, Nodejs, Three.js
Prototyping and Modeling: Figma, Unity, Autodesk Maya, Axure
Other Software: LaTex, FormAssembly, Adobe Premiere Pro, Adobe Photoshop, Salesforce Lightning, Asana
Languages: Bilingual in English and Korean, Intermediate Chinese (Mandarin)