Jenna Kang

370 Jay Street, Brooklyn, NY 11201

jennakang@nyu.edu ◇ jennakangg.github.io ◇ +1 919-360-2343

EDUCATION

New York University, NY, USA — Sept 2024 - Present
PhD in Computer Science
– Interests: Computer graphics, visual perception, psychophysics, generative AI, neural rendering, visualization
– Advisor: Qi Sun

Georgia Institute of Technology, GA, USA — Aug 2021 - May 2024
B.S. Computer Science
– Advisor: Thad Starner
– **Highest Honor**

PUBLICATIONS

A full list of my publications can be found on my Google Scholar profile.

Journal and Conference Publications

- ***Performance Analysis of Catch-Up Eye Movements in Visual Tracking*** — *SIGGRAPH ASIA 2025*
  J. Kang, B. Duinkharjav, N.L. Williams, Q. Sun — link
- ***Towards Improving Real-Time Head-Worn Display Caption Mediated Conversations with Speaker Feedback for Hearing Conversation Partners*** — *CHI 2024*
  J. Kang, E. Layton, D. Martin, T. Starner — link
- ***Evaluating Visual Perception of Object Motion in Dynamic Environments*** — *SIGGRAPH Asia 2024*
  B. Duinkharjav, **J. Kang**, G. S. P. Miller, C. Xiao, Q. Sun — link
- ***Stepping into AR: Exploring Optimal Positioning for Monocular Head-Worn Displays for Reading on the Go*** — *UBICOMP/ISWC 2024*
  P. Mosur, E. Kimmel, P. Arora, R. Singh, A. R. Madiwale, **J. Kang**, T. Starner — link

Workshop Papers and Posters

- ***Graphical Perception: Alignment of Vision-Language Models to Human Performance*** — *VSS 2025*
  J. Kang, G. Guo, R.S. Shah, H. Pfister, S. Varma — link
- ***Understanding Graphical Perception in Data Visualization through Vision-Language Models*** — *Neurips Workshop 2024*
  J. Kang, G. Guo, R.S. Shah, H. Pfister, S. Varma — link

RESEARCH EXPERIENCE

Dolby Laboratories — Sunnyvale, GA USA
*PhD Research Intern (Mentors: **Timo Kunkel, Jake Zuena**)* — *May 2025 - Aug 2025*

- Color Perception in Mesopic and Scotopic Regions
  - Assessed and modeled color perception in the mesopic and scotopic regions for content fidelity and optimization
  - Designed and conducted a psychophysical face-flip study to identify shifts in isoluminance for varying hues and chromas at low luminance levels
  - Modeled shifts in isoluminance to apply correction on real images
  - Wrote python/MATLAB API to automate PR740 photospectrometer measurements

Immersive Computing Lab, New York University Tandon CSE New York, NY USA
*PhD Student Researcher (Advisor: **Qi Sun**)* *Sept 2023 - Present*

- **Modeling Human Behavior and Temporal Consistency in Generative Systems**
  - Investigated approaches for modeling human behavioral data for temporal consistency across long sequences
  - Explored diffusion forcing and world models as a potential method to maintain long-term temporal coherence in generative models
  - Analyzed diverse behavioral data types (e.g., gaze/scanpaths, perceptual responses, long-term physiological signals such as REM)
  - Diffusion forcing, autoregressive techniques, transformers
- **Object Motion Tracking**
  - Studied observers' ability to track objects at varying velocities and varying visibilities (luminance, color, noise contrasts)
  - Implemented and conducted a psychophysical Unity-based study with a GazePoint eye tracker
- **Video Quality in AI Generated Videos**
  - Studied artifacts in AI generated videos to understand how they impact visual quality and perceived realism of the videos
  - Implemented and deployed crowdsourcing web-based video-annotator on AWS, data collected through Prolific
- **Perception of Object Heading Direction in Dynamic Environments**
  - Studied and modeled perceptual accuracy of object headings in 3D environments
  - Implemented and deployed a crowdsourcing-based psychophysical study on AWS, data collected through Prolific
- **Foveated Perceptual Gaussian Splatting**
  - Created dataset and trained MLP to predict optimal level-of-detail for a scene based on the FovVideoVDP metric, parameterized based on camera position, viewing direction, and eccentricity
  - Conducted a user study on a headworn display to evaluate visual quality and rendering efficiency

Visual Computing Group, Harvard University
& Cognitive Architecture Lab, Georgia Tech New York, NY USA
*PhD Student Researcher (Advisors: **Hanspeter Pfister, Sashank Varma**)* *May 2024 - Present*

- **Graphical Perception and Visual Question Answering**
  - Recreated classic graphical perception stimuli from Cleveland and McGill to evaluate vision-language model (VLM) and human performance on visualization understanding (bar charts, pie charts)
  - Queried VLMs, including GPT-4 and Claude, on comparison and proportion judgment tasks, comparing against human accuracy
  - Designed and implemented a Prolific web-based study to collect human responses to VLAT-style questions on modified stimuli
  - Aimed to bridge insights from VLAT and graphical perception literature for evaluating perceptual alignment in VLMs

Contextual Computing Group Atlanta, GA USA
*Undergrad Student Researcher (Advisor: **Thad Starner**)* *Aug 2022 - May 2024*

- **Surgery and Headworn Displays**
  - Prototyped medical applications of head-worn displays projecting camera output for surgical zoom with a variety of sensors

Emory School of Medicine Atlanta, GA USA
*Undergrad Student Researcher (Advisor: **Anthony Law**)* *Aug 2022 - May 2024*

- **Paralysis Diagnostics**
  - Trained a segmentation model for vocal folds with YOLOv8/PyTorch, implemented computer vision techniques to detect paralysis in vocal folds

WORK EXPERIENCE

Dolby Laboratories — Sunnyvale, CA USA
*PhD Research Intern (Mentors: **Timo Kunkel, Jake Zuena**)* — *May 2025 - Aug 2025*

- Assessed and modeled color perception in scotopic/mesopic regions
- MATLAB, PR740 Photospectrometer, Psychopy, Dolby PRM

Amazon Robotics — Westborough, MA USA
Software Engineer - Internship — *May 2024 - Aug 2024*

- Created a service to validate camera parameters for Amazon computer vision package scanning/detection
- Eliminated the need for specialized software engineering support at production sites, reducing the requirement for 1,000 planned workcell stations
- Conducted production-level set-up and testing, deployed work to Amazon warehouse
- Python, Python Websockets, Docker

Amazon Robotics — North Reading, MA USA
Software Engineer - Internship — *May 2023 - Aug 2023*

- Created a service to list teams' packages and dependencies by scanning a dependency graph with AWS Lambda
- Provided an architecture with an improvement of 4hrs to the runtime of the AWS Step Function cron job
- Created a React UI to visualize the packages and query with inputs such as tags, prefix, team name
- AWS: CDK, Step Functions, Lambda, DynamoDB, Cloudformation, Cloudwatch, Opensearch, API Gateway, S3, IAM

Amazon Robotics — North Reading, MA USA
Software Engineer - Co-op — *Jan 2022 - Aug 2022*

- Led design and implementation of a common software framework for reusable workflows at Amazon warehouses
- Associate Notification Service: built the first reusable workflow component for managers to inform associates working at warehouses of any notifications (safety, alerts, etc.), integrated with internal Amazon clients/services
- Scanner Calibration Service: created an algorithm to map scanners with a given configuration to their physical device IP address at a particular workflow, integrated with a React UI to drive the calibration process
- Kotlin, Docker, Typescript, Java, React

CyberCrucible — Remote
Part-time Frontend Engineer — *Dec 2021 - Feb 2023*

- Built charts and grids with AGGridReact, reusable React components, encrypted secure data
- Javascript, CSS, HTML, React, ReactJS

TEACHING EXPERIENCE

Course Assistant - Virtual and Augmented Reality (CS-GY 9223) — Aug 2025 - Present
New York University — *New York, NY USA*

- Gave instruction on using the Unity Engine for game development, graded Unity projects

Teaching Assistant - Computing and Society (CS 3001) — Aug 2023 - May 2024
Georgia Institute of Technology — *Atlanta, GA USA*

- Lead weekly student discussions on the ethics of computing, grade papers and debates in computing

SKILLS

Computing Skills	Java, Kotlin, AWS, MATLAB, Python, C#, R, Unity3D, git, LaTeX, Windows, Linux, Docker, React, Javascript, HTML, CSS
Research Areas	Virtual/augmented reality, visual perception, motion perception, psychophysics, human-computer interaction, statistical modeling, computer graphics, user interfaces

AWARDS & HONORS

New York University SoE Fellowship Aug 2024
New York University U.S. DoE Graduate Assistance in Areas of National Need Fellowship (GAANN) Aug 2025