

# Min Xia

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## RESEARCH EXPERIENCE

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- AR-Enabled Robot Skill Learning from Human Demonstration** | *Google Deepmind* 2024 – Now
- Developed a novel system enabling users to intuitively teach robots dexterous skills by demonstrations in augmented reality (AR) using an Apple VisionPro
  - Pioneered a approach to automatically generate reward functions for robot learning from demonstration videos using large language models (LLMs)
  - Achieved an 80% success rate on short-horizon tasks and 50% on long-horizon tasks, validating the effectiveness of the approach through experiments with a robot in MuJoCo simulation
  - Preparing a paper detailing this research for submission to the RAL
- Sensible AI Agent** | *Google AR* 2025 – 2025
- Designed and implemented a WebXR-based framework for unobtrusive interaction with proactive AR agents, featuring an action recommendation module, an interaction adaptation module, and leveraging LLMs for real-time context inference and proactive suggestion generation.
  - Conducted user study evaluating the sensible agent against a Project Astra baseline voice agent, demonstrating significantly lower cognitive effort ( $\mu=21.10$  vs. 65.00,  $p < .001$ ) and strong user preference ( $\mu=6.00$  vs. 3.80,  $p = .0074$ ) among 10 participants
  - Research accepted for publication at UIST '25
- AI Copilot for AR Glasses** | *Google AR* 2023 – 2024
- Developed a multimodal search system for AR glasses leveraging LLMs, including a novel composed retrieval model that achieved significant performance gains over previous methods.
  - Defined five novel rating categories (factuality, readability, offensiveness, informativeness, responsiveness) to effectively evaluate the performance of the multimodal search system
  - Developed an automated evaluation system using LLMs to assess performance, achieving 95% precision and 90% recall for factuality on a 4K response dataset

## EMPLOYMENT

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- Senior Software Engineer** | *Google* 2023 – Now  
*Tech-lead of AR* *Mountain View, CA*
- Lead the iOS platform for AR Glasses, overseeing connectivity (Bluetooth/Wi-Fi) and split compute, companion app development, on-device Glasses experiences, and seamless integration with first- and third-party apps, culminating in high-quality launches.
  - Developed and launched a cross-platform (iOS and Android) system for serving geospatial content in Google Maps Street View and Live View, impacting millions of users at landmark locations globally (e.g., Eiffel Tower)
  - Engineered a comprehensive solution encompassing data storage compression techniques, a high-performance content serving service
  - Implemented robust logging, metrics, and a monitoring dashboard to track user engagement, identify performance bottlenecks, and optimize content delivery efficiency
- Software engineer IV** | *Google* 2019 – 2022  
*Tech-lead of AR* *Mountain View, CA*
- Launched Geospatial API V2 (Streetscape Geometry and Rooftop) in Google I/O 2023.
  - Launched Geospatial API V1 in I/O 2022, achieving 2M monthly active users
  - Improved ARCore data logging and processing, creating API dashboards
  - Designed and implemented AR walking navigation for indoor venues in Google Maps
  - Designed and implemented an XR system that seamlessly integrates AR sessions within VR environments
- Junior Software engineer** | *Google* 2016 – 2019  
*Tech-lead of Cloud Anchor* *Mountain View, CA*
- Designed and implemented Persistent Cloud Anchors, enabling cross-platform AR experiences with anchors persisting for 1 year
  - Optimized camera frame consumption in VR headset by refactoring the data pipeline to use BufferHub instead of BufferQueue
  - Improved Digital AR passthrough and redesigned the VR data source and tracking stack for enhanced performance
  - Designed and implemented the Daydream Test Suite, an automated testing framework for mobile devices

## EDUCATION

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### **Cornell University**

*Master | Electrical and Computer Engineering*

Ithaca, NY

*2014 – 2015*

### **Southeast University**

*Bachelor | Electronic Science and Engineering*

Nanjing, China

*2010 – 2014*

## PUBLICATIONS

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[C.1] Geonsun Lee, **Min Xia**, Nels Numan, Xun Qian, David Li, Yanhe Chen, Achin Kulshrestha, Ishan Chatterjee, Yinda Zhang, Dinesh Manocha, David Kim, and Ruofei Du. Sensible Agent: A Framework for Unobtrusive Interaction with Proactive AR Agent. Proceedings of the 39th Annual ACM Symposium on User Interface Software and Technology, 2025.

## PATENTS

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[P.1] **Min Xia**, John Ullman, David Richey, et al. Structure Anchor Elevation Query Service. US Patent Application 18/660,186, 2024. (Pending).

[P.2] **Min Xia**, John Ullman, Stevan Silva, et al. Providing Access to Mesh Geometry from Images of Objects. US Patent Application 18/660,176, 2024. (Pending).

## TECHNICAL SKILLS

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**Languages:** Java, Python, C/C++, Swift, SQL, JavaScript, HTML/CSS, ObjectiveC

**Frameworks:** Android, iOS, Mujoco, Embedded Linux Applications in ARM Architecture, Designing and testing of digital and analog system/circuit