Min Xia

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Research Experience

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 IROS conference

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, readiness, 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

Senior Software Engineer | *Google* 2023 – Now

Tech-lead of AR *Mountain View, CA*

- 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

Cornell University Ithaca, NY

Master | Electrical and Computer Engineering *2014 – 2015*

Southeast University Nanjing, China

Bachelor | Electronic Science and Engineering *2010 – 2014*

PATENTS

[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

Languages: Java, Python, C/C++, SQL, JavaScript, HTML/CSS, ObjectiveC
Frameworks: Android, iOS, Mujoco, Embedded Linux Applications in ARM Architecture, Designing and testing of digital and analog system/circuit