

# Andrei Kopanev

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## EDUCATION

### B.S. in Computer Science and Engineering

Sep 2022–May 2026

The Ohio State University | GPA: 3.936

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## RESEARCH EXPERIENCE

### Undergraduate Research Assistant

Mar 2025–present

NLP Lab (Yu Su and Huan Sun), OSU

*Columbus, OH, USA*

- Contributed to the Mind2Web-2 benchmark (accepted at NeurIPS 2025, Datasets and Benchmarks Track), a large-scale evaluation suite for long-horizon web agents with human-authored tasks involving search, navigation, and real-world interactions.
- Authored around 15 percent of the benchmark tasks and supported large-model evaluation by running Google Deep Research and OpenAI Deep Research systems.
- Implemented large-scale caching of visited web pages, including manual resolution of CAPTCHA checks, ensuring reproducibility of experiments.

### Undergraduate Research Assistant

Oct 2023–May 2025

Imageomics Institute, OSU

*Columbus, OH, USA*

- Developed open-source tools for large-scale image collection and dataset management, enabling the creation of the BioCLIP-v2 dataset (expanded from 10M to 220M images).
  - Designed and implemented a distributed image downloader and supporting preprocessing scripts, handling fault tolerance, parallelization, and efficient storage.
  - Tools were released as open-source repositories and adopted by the lab to support large-scale multimodal learning research.
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## PROJECTS

### StepSafe (student-led project)

Jan 2024–present

Tech Lead

*Columbus, OH, USA*

- Designed and led development of a V2X-inspired safety platform for real-time hazard detection and risk-aware navigation.
  - Architected and implemented the backend (AWS/Kafka/PostGIS/TimescaleDB) and guided frontend/UI design, coordinating contributions across multiple teams.
  - Developed system for hazard detection and risk profiling of roads and intersections, leveraging spatiotemporal data (S2 cells, historical hazard statistics).
  - Defined product vision and technical roadmap, bridging user needs with scalable engineering solutions.
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## SKILLS

**Programming:** Python, C, C++, C-sharp, Java, JavaScript, HTML/CSS

**Libraries/Frameworks:** Python: PyTorch, NumPy, OpenCV, Pillow, PySpark, mpi4py; C-sharp: ASP.NET, .NET Framework, Entity Framework; JavaScript: React.js, Vue.js; Frameworks: ROS 2, MPI

**Databases:** MSSQL, MySQL, SQLite, Apache Spark

**Infrastructure/Tools:** Git, Docker, Hugging Face, HPC (Ohio Supercomputer Center)

**Software:** MATLAB

**Soft Skills:** Quickly learn complex concepts, Effective communication, Problem solving