

# DAVID PARK

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## EDUCATION

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### Washington University in St. Louis

*Candidate for Bachelor of Science, Computer Science and Math, May 2026*

GPA 3.99/4.0

Selected Coursework: Data Structures and Algorithms, Probability and Statistics for Engineering, Rapid Prototype Development and Creative Programming, Introduction to System Software, Algorithms for Nonlinear Optimization, Linear Algebra, Introduction to Analysis, Introduction to Machine Learning, Deep Reinforcement Learning, CUDA Programming, Operation Systems Organization

*Awards:*

Dean's List (Fall 2022, 2023, Spring 2023), Antionette Frances Dames Award (Spring 2024), Outstanding Sophomore Award (Spring 2024), Summer Undergraduate Research Award Winner (Summer 2024)

## PUBLICATIONS

\* Equal Contribution

• **Predicting Task Performance with Context-aware Scaling Laws:** Kyle Montgomery\*, **David Park\***, Jianhong Tu, Michael Bendersky, Beliz Gunel, Dawn Song, Chenguang Wang. Arxiv pre-print.

## WORK EXPERIENCE

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### Software Engineering Intern

*Leader Digital Technology, Inc., Santa Fe Springs, CA, May-August 2022*

- Developed efficient software that parsed large amounts of printing data using Python and Pandas (40 hours/week)
- Coordinated with other engineers to evaluate and improve software and hardware interfaces

### Security Software Engineering Intern

*MITRE, Los Angeles, CA, June-August 2020*

- Developed software to improve computer security by simulating and circumventing infiltrations (40 hours/week)
- Researched key system vulnerabilities and their countermeasures
- Deployed a library of USB vulnerabilities to the signature ATT&CK Framework
- Worked with Senior Software Engineers to modernize and streamline code to industry standards

## RESEARCH & TEACHING

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### Undergraduate Research Assistant

*Washington University in St. Louis, January 2025 – Present*

- Research deep reinforcement learning with WashU's Machine Intelligence Group alongside PhD and master's students
- Adapted the MuZero model to a multi-agent environment and utilized JAX and C++ to optimize model training and the MCTS algorithm

### Undergraduate Research Assistant

*Washington University in St. Louis, August 2023 – Present*

- Researched natural language processing with WashU's NLP Group alongside PhD and master's students
- Met weekly to analyze latest advances in NLP technology and discuss their integration into current projects
- Conducted experiments on large language models to determine how performance scales with long context tasks
- Fine-tuned reasoning models and experimented with different reinforcement learning algorithms to achieve novel benchmark results on Olympic-level coding questions (paper in progress)

### Undergraduate Teaching Assistant

*Washington University in St. Louis, August 2023 – Present*

- Worked with other undergraduates to tutor Data Structures and Algorithms
- Advised 60+ students in weekly material during studio sessions
- Hosted 6 hours of office hours a week to break down complex topics and incentivize collaboration
- Proctored and graded exams and lab reports

## **SKILLS**

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*Programming Languages:* Java, Python, C, SQL, JavaScript, Lua, PHP, Intel x86, R

*Libraries:* Pandas, JAX, TensorFlow, Keras, PyTorch, XGBoost, Matplotlib

*Tools:* Linux, Bash, GDB, LaTeX, Neovim

## **LEADERSHIP**

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### **Association of Computing Machinery Public Relations**

*Washington University in St. Louis, August 2022 – Present*

- Design flyers and social media posts to gather interest in club events
- Work with event coordinators to host recruiting events, information sessions, and workshops
- Took photos to publicize on official ACM website
- Helped to write blogs on recent ACM activities