Alex Derhacobian

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Education

Stanford University **Sept 2019 – Jun 2024**
B.S. & Expected M.S., Computer Science. GPA: 3.9 *Stanford, CA*

Experience

Microsoft **Jun 2022 – Present**
Research Intern *Cambridge, MA*

- Using optimization theory and applied mathematics to make ML more broadly applicable and explainable
- Creating toolkits for ML explainability, developing mathematical theory, collaborating w/ Senior Researchers

Stanford Future Data Systems Research Group **Dec 2020 – Present**
Research Assistant *Stanford, CA*

- Developing ML algorithms for large scale video analytics with Prof. Matei Zaharia and Tatsunori Hashimoto
- Building end-to-end ML pipelines, writing open source packages for AutoML, publishing papers

Parknav **Jun – Aug 2020**
Software Engineering Intern *San Francisco, CA*

- Trained object detection models for smart parking API, deployed on real-time video streams
- Debugged deep learning pipelines, designed sanity testing infrastructure, performed data processing

Gyrfalcon Technology **Jun – Sept 2020**
Software Engineering Intern *Milpitas, CA*

- Developed novel image captioning pipelines for Gyrfalcon's in-house AI coprocessors
- Wrote low-level, high-performance code for coprocessor chips, implemented ML algorithms with research team

Research Contributions and Projects

Active Search for Rare Examples via Proximity-based Selection (under review NeurIPS 2022)
Daniel Kang, Alex Derhacobian, Kaoru Tsuji, Trevor Hebert, Peter Bailis, Tadashi Fukami, Tatsunori Hashimoto, Yi Sun, Matei Zaharia

Exploiting Proximity Search and Easy Examples to Select Rare Events (NeurIPS 2021) (link)
Daniel Kang, Alex Derhacobian, Kaoru Tsuji, Trevor Hebert, Peter Bailis, Tadashi Fukami, Tatsunori Hashimoto, Yi Sun, Matei Zaharia

Adaptive Prediction Sets with Class Conditional Coverage (link)
Alex Derhacobian, John Guibas, Linden Li, Bharath Namboothiry

Random and Guided Edge Perturbations for Improved Learning on Graphs (link)
Alex Derhacobian, Edward Vendrow

Technical Skills

Languages and Technologies: Python, C/C++, SQL, PyTorch, NumPy, Pandas, LaTeX, CUDA
Developer Tools: Linux, Docker, Bash, Vim, Emacs, Tmux, Git, AWS, Google Cloud

Selected Coursework

- Operating Systems
- Machine Learning
- Computer Vision
- Computer Security
- Parallel Computing
- Statistical Inference
- Linear Models
- Linear Algebra
- Real Analysis