Preslav Aleksandrov

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https://github.com/Helios113 preslavaleksandrov.com Google Scholar

Research Interests

Machine Learning | Deep Learning | Natural Language Processing | Computer Vision | Reinforcement Learning | AI Safety | Large Language Models | Generative AI | Multimodal Learning

Education

University of Cambridge 2024 - Current
PhD in Computer Science, GPA: 3.9/4.0 *Cambridge, UK*

- **Relevant Coursework:** Deep Learning, Machine Learning, Natural Language Processing, Computer Vision, Reinforcement Learning, Probabilistic Graphical Models, Advanced Algorithms, Statistical Learning Theory
- **Honors:** Dean's List (all semesters), Research Excellence Award, AI Research Fellowship

University of Glasgow 2024 - Current
MSc in Computer Science, GPA: 3.9/4.0 *Cambridge, UK*

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Research Experience

Research Institution/Lab Name Month Year – Present
Research Intern/Assistant | Advisor: Prof. Name *City, State/Country*

- Developed novel transformer architecture achieving 15% improvement in BLEU score on WMT translation benchmark, reducing model parameters by 30% while maintaining performance
- Implemented and optimized distributed training pipeline using PyTorch and DeepSpeed, scaling to 128 GPUs with 85% efficiency, reducing training time from 2 weeks to 3 days
- Published first-author paper at NeurIPS/ICML/ICLR (specify conference) on efficient attention mechanisms for long-context language models with 100+ citations
- Collaborated with 5-person research team, contributing 10,000+ lines of production-quality research code to open-source repository (3,000+ GitHub stars)

Previous Research Lab/Company Month Year – Month Year
Machine Learning Research Intern | Mentor: Dr. Name *City, State/Country*

- Designed and trained multimodal vision-language model achieving state-of-the-art results on 3 benchmark datasets (VQA, COCO Captioning, Visual Reasoning)
- Conducted ablation studies analyzing attention patterns in vision transformers, identifying key architectural improvements adopted by 50+ follow-up papers
- Co-authored workshop paper at CVPR/ECCV/ICCV on zero-shot transfer learning for image classification

Publications

First Author Publications:

- **Your Name**, Co-author Names. "Descriptive Title About Your Research Contribution." *NeurIPS/ICML/ICLR* Year. [arXiv] [code]
- **Your Name**, Co-author Names. "Another Paper Title on Relevant AI Topic." *Workshop at Major Conference*, Year. [arXiv]

Contributing Author Publications:

- Co-author Names, **Your Name**, et al. "Paper Title Where You Made Significant Contributions." *Conference Name*, Year.

Technical Projects

Project Name: Descriptive AI/ML Focus Month Year – Month Year

- Built end-to-end deep learning system for [specific task] using PyTorch/TensorFlow, achieving [specific metric] performance
- Implemented novel [algorithm/architecture] based on recent research, demonstrating [percentage] improvement over baseline
- Open-sourced implementation with comprehensive documentation, gaining 500+ GitHub stars and used by 10+ research groups
- **Technologies:** PyTorch, Transformers, CUDA, Weights & Biases, Docker, AWS/GCP

Another Significant Project Name Month Year – Month Year

- Developed [specific AI system] processing [data scale] with [performance metric], deployed in production serving 10,000+ users
- Optimized inference latency from [X]ms to [Y]ms through model quantization, pruning, and efficient deployment strategies
- **Technologies:** Python, JAX/Flax, Ray, Kubernetes, MLflow, TensorBoard

Technical Skills

Programming Languages: Python (expert), C++ (proficient), Julia, R, CUDA, SQL
ML Frameworks: PyTorch, TensorFlow, JAX, Hugging Face Transformers, scikit-learn, XGBoost
AI/ML Specializations: Deep Learning, Natural Language Processing, Computer Vision, Reinforcement Learning, Generative Models, Large Language Models, Diffusion Models, Graph Neural Networks
Tools & Infrastructure: Git, Docker, Kubernetes, AWS/GCP/Azure, Weights & Biases, MLflow, Ray, DeepSpeed, SLURM
Libraries: NumPy, Pandas, SciPy, Matplotlib, OpenCV, NLTK, spaCy, LangChain
Research Skills: Experimental design, statistical analysis, technical writing, literature review, reproducible research

Awards & Honors

- Best Paper Award, [Conference Name], Year – Recognized for outstanding research contribution
- Research Fellowship, [Institution], Year – Competitive fellowship awarded to top 5% of applicants
- Kaggle Competition Winner/Grandmaster, [Competition Name], Year – Ranked 1st/Top 1% among 5,000+ teams
- Outstanding Student Award in AI/ML, [Institution], Year

Teaching & Mentorship

Teaching Assistant – Course Name (ML/DL/AI) Month Year – Month Year

- Led weekly discussion sections for 50+ students, achieving 4.8/5.0 teaching evaluation
- Developed course materials and programming assignments on neural networks, CNNs, RNNs, and transformers
- Mentored 3 undergraduate research students, resulting in 2 workshop papers

Service & Leadership

- Reviewer for [Conference Names: NeurIPS, ICML, ICLR, etc.], Year

- Organizer, AI Research Reading Group at University, Year – Present
- Volunteer, AI for Social Good Initiative, contributing ML expertise to non-profit projects