Eryk Banatt

(973) 945-5263 | erykbanatt@gmail.com | planetbanatt.net

Experience

Riot Games — *Los Angeles, CA*

Senior Research Scientist — *February 2023 - Present*

- Perform games-oriented machine learning research for content generation
- Use LLMs, diffusion models, and other generative models to create prototypes which demonstrate potential value adds for teams within Riot

The Johns Hopkins University Applied Physics Lab — *Laurel, MD*

Artificial Intelligence Research Scientist — *April 2019 - January 2023*

- Evaluated and extended upon cutting edge machine learning techniques to solve sponsor-posed problems
- Developed novel algorithms for learning under domain shift, particularly in convolutional neural networks trained with synthetic data
- Developed new methods for uncertainty estimation of black-box models using surrogate models and adversarial attacks
- Led teams of 3-5 people on multiple efforts to perform fundamental research supporting large projects

Miami International Holdings Inc. — *Princeton, NJ*

Junior Trading Operations Support Specialist — *October 2017 - March 2019*

- Wrote regression test cases to debug functionality in exchange matching engine software

Education

Johns Hopkins University — *Baltimore, MD*

M.S. in Artificial Intelligence (with Honors) — *August 2024*

Yale University — *New Haven, CT*

B.A. in Cognitive Science — *August 2013 - May 2017*

- Concentration: Expertise and Expert Performance

Projects

Melee Stats

Creative Director — *February 2020 - Present*

- Data Lead for SSBMRank Top 100 Rankings
- Write, edit, and produce for YouTube channel with 20k+ subscribers and 1.5M+ views

planetbanatt.net

Portfolio Website — *June 2016 - Present*

- Static website with Bootstrap frontend generated via emacs org mode html export
- Hosts write-ups for projects, see: planetbanatt.net/projects.html

Input Latency Perception in Expert-Level Gamers

Senior Thesis Project — *May 2017*

- Programmed a double-blind input latency perception task using an Arduino microcontroller
- Demonstrated a statistically significant (p=0.0008) difference in perceptual ability between control and expert video game competitors

Skills and Coursework

Skills	Python, Pytorch, Keras, Tensorflow, scikit-learn, Pandas, R, Emacs, Git, SQL/SQLite, LaTeX, Davinci Resolve Studio 17
Coursework	Artificial Intelligence, Language & Computation, Computational Vision & Biological Perception, Algorithms, Data Structures, Linear Algebra, Multivariable Calculus & Complex Analysis, Applied Machine Learning, Deep Neural Networks, Large Language Models
Research	Large Language Models, Generative AI, Synthetic Data, Domain Adaptation, Adversarial Attacks, Active Learning, Label Prioritization, Object Detection, Semantic Segmentation, Semi-Supervised Learning, Uncertainty Estimation

Publications

Banatt, Eryk, Jonathan Cheng, Skanda Vaidyanath, and Tiffany Hwu. "WILT: A Multi-Turn, Memorization-Robust Inductive Logic Benchmark for LLMs." NeurIPS 2024 MATH-AI Workshop (2024).

Banatt, Eryk, Vickram Rajendran, and Liam Packer. "Target Domain Data induces Negative Transfer in Mixed Domain Training with Disjoint Classes." arXiv preprint arXiv:2303.01003 (2023).