RYLAND BIRCHMEIER

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EDUCATION

University of Virginia (Rising Junior), Charlottesville, VA
[Major] Computer Science (BS) // [Minors] Entrepreneurship (McIntire), Data Science   *August 2022 - May 2026*
- ❖ GPA: 4.0/4.0, Rodman Scholar (Top 5% Engineering School), Dean's List All Semesters.
- ❖ Courses Taken: Linear Algebra, Multivariable Calculus, Algorithms I & II, Computer Architecture I, Probability, Discrete Mathematics I, Software Development Essentials, Intro Entrepreneurship, Advanced Software Development, Ordinary Differential Equations, Managing Innovation.
- ❖ Courses Taking Fall 2024: Machine Learning, Intro Cybersecurity, Computer Architecture II, Entrepreneurship, Entrepreneurship Capstone.

The Bishop's School, San Diego, CA
High School   *August 2018 - May 2022*
- ❖ Cum Laude, Upper School Science Award Recipient, Knight's Award, GPA: 3.99/4.0 (4.7/5.0), ACT: 35/36.

ACADEMIC ACHIEVEMENTS / AWARDS

1st Place - UVA 2024 Hackathon, Charlottesville, VA   *March 2024*
- ❖ Won UVA Hackathon Art & Gaming category in the most competitive year to date (750+ participants across all HooHacks).
- ❖ Utilized PyGame, Next.js, and dynamic programming algorithms to create an interactive teacher projected onto a real piano.

Top 5/100+ - Meta & UVA Systems Data Science Case Competition, Charlottesville, VA   *November 2023 – December 2023*
- ❖ Placed top 5 out of 100+ teams registered in the first ever Meta sponsored UVA data science case competition.
- ❖ Performed analysis with Scikit-Learn K-means & t-SNE, LLM semantic grouping, Matplotlib, and Gephi graph visualization.

PROFESSIONAL EXPERIENCE

Allianz Partners, Richmond, Virginia
Project Management & Innovation (PM&I) Intern   *June 2024 - August 2024*
- ❖ Understand and improve critical tasks within the PM&I team at Allianz and enhance efficiency through technical innovation.
- ❖ Focused on exploring use cases for LLMs and other modern technologies and implementing them into concrete workflows.
- ❖ Create software prototypes and present findings in focused PowerPoint presentations to Allianz executives.

IBM Accelerate 2024, Virtual
Software Developer Track   *June 2024 - July 2024*
- ❖ Accepted for Summer 2024 (5% acceptance rate) with emphasis on React, GenAI implementation, and cloud native dev.
- ❖ Participate in two sessions per week with current IBM engineers to learn about real-world software development.

Vexcel Imaging (Microsoft spin-off), Madrid, Spain
AI / Machine Learning Intern   *May 2023 - July 2023*
- ❖ Engineered high-accuracy PyTorch CNNs and fine-tuned custom, photo-realistic, latent diffusion models (sd-v1-5), assisting in high-accuracy image classification/regression and novel text-to-image creation/text-guided image inpainting.

PROJECTS / ACTIVITIES

UVA Autonomous Racing, Charlottesville, VA
Computer Vision & Perception Team   *April 2024 - Present*
- ❖ Accepted as new member of UVA's Autonomous Racing Team working to implement CV papers with PyTorch.

www.audoly.com, Online
Creator & Developer   *May 2024 - Present*
- ❖ Maintain a Next.js app that allows music artists to scrape the Spotify API for playlist curator info (email, insta, twitter/x).

Club Pickleball Player, Charlottesville, VA
Pickler, Club Team   *January 2024 - Present*
- ❖ Pickler on UVA's Club Pickleball team (100+ members), regularly compete in games & tournaments on campus.

TECHNICAL SKILLS

Core Programming & Frontend: Java (Oracle Certified Associate), Python, JavaScript & TypeScript, HTML, CSS, Tailwind CSS, React.js, Next.js 13+ App Router, Redux, React Native, SQL, C (beginner).

Backend: AWS (CDK, S3, EC2, Lambda, DynamoDB, Route 53, API GW, EventBridge, IAM), GCP (Firebase, Firestore, Cloud Functions, GKE, Cloud SQL, Vision, Compute Engine), Django, Docker, Docker Compose, Flask, PostgreSQL, REST APIs.

AI & Data Science: PyTorch/TensorFlow (intermediate), Scikit-Learn, CNNs (ResNet, YOLO), Stable Diffusion Fine-Tuning, OpenCV, Pandas, Vector Databases, Web Scraping, Weights and Biases (W&B), Gephi (network visualization), Matplotlib.

Misc: Git, GitHub Workflow, Ubuntu (desktop, server), FDM 3D Printing (Prusa, Creality), Fusion 360, Figma.