Juan Martín Gómez de Agüero

juan.martin@mail.utoronto.ca | +1 (437) 484-4437 | linkedin.com/in/juandeaguero

Education

University of Toronto, Trinity College · Sep 2020 – Dec 2024
Honors Bachelor of Science in Computer Science

Experience

Research Assistant, Medical Operations Research Lab, *University of Toronto* · Jan 2024 – Aug 2024

- Led a team of 6 in developing a full-stack web application for simulating disease spread.
- Engineered the application using React JS, Django, and MySQL, resulting in a platform adopted by over 30 researchers at morlab.mie.utoronto.ca and across Canada, directly impacting public health research.
- Automated tasks with AWS Batch and Docker, reducing processing time by over 50% and enhancing scalability.
- Deployed the application to Vercel, pansim-demo.netlify.app, streamlining deployment and providing immediate access to new features.
- Enhanced data visualization with D3.js, improving researchers' ability to model disease dynamics effectively.

IT Assistant, GA Pharmacy, *Madrid, Spain* · Summers 2022 & 2023

- Maintained and optimized IT infrastructure for a high-traffic pharmacy, ensuring seamless operations.
- Developed and launched the e-commerce website ortopediaonline.es using Node.js and Wix, increasing online sales by over 150% and expanding the customer base.
- Implemented secure payment gateways and inventory systems, reducing check-out times by 30%.
- Provided technical support and training to staff, enhancing productivity and technology adoption.

Projects

Flow · GitHub | Dec 2023 – Present

- Engineered a high-performance machine learning library in C++, enabling tensor operations and backpropagation.
- Optimized performance by integrating CUDA, accelerating training times by 60%.
- Developed core architectures for neural networks, enhancing flexibility for diverse model implementations and contributing to future machine learning research.
- Achieved 96% accuracy in classifying handwritten digits using a custom convolutional neural network in 21 minutes.
- Documented the library and provided examples for adoption by other developers.

Restify · restify.ca | GitHub | Jan 2023 – Apr 2023

- Developed a scalable web platform for short-term homestays, leveraging React for a responsive frontend.
- Automated infrastructure deployment using Terraform, utilizing AWS CloudFront for secure custom domains with HTTPS encryption and S3 for reliable static hosting, reducing manual deployment errors.
- Enhanced user experience by implementing interactive UI components, responsive design, and optimizing site performance, increasing user engagement and reducing bounce rates.

New Dawn · Steam | Demo Video | Sep 2023 – Present

- Designed and developed *New Dawn*, an exploration and survival game in a procedurally generated world.
- Implemented core mechanics using Unreal Engine 5 and C++, resulting in positive feedback and engaging gameplay.
- Integrated AWS GameLift for scalable multiplayer, supporting up to 100 concurrent players.
- Achieved over 500 wishlists on Steam within the first month.
- Managed a team of 4, coordinating tasks and ensuring timely project milestones.

Certificates

AWS Certified Cloud Practitioner (CLF-C02) · Credential | Oct 10 2024

- Demonstrated knowledge of AWS Cloud concepts, core AWS services, security, architecture, pricing, and support.
- Proficient with services including EC2, Lambda, VPC, RDS, DynamoDB, and S3.

Skills

Programming Languages: C++, Python, JavaScript, TypeScript, SQL, Java
Frameworks & Technologies: React, HTML, CSS, Node.js, Django, AWS, Google Cloud, Microsoft Azure, Terraform, Docker, Kubernetes, Git, MySQL, DynamoDB, MongoDB, Oracle, Postgres, PyTorch, TensorFlow, CUDA, Unix, Linux
Languages: English (Fluent), French (Fluent), Spanish (Native)