# Christian Gorton

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## Education

- **University of Colorado** Boulder, CO
  *Bachelor of Arts and Science in Mathematics, Minor in Computer Science*
  - **Relevant Coursework**: Machine Learning, Data Science, Data Structures, Principles of Programming Languages, Probability Theory, Calculus 1-3, Abstract Algebra, Linear Algebra, Analysis 1-2
  - **Academic Projects**: Implemented neural network models for image classification; Developed bespoke machine learning models using Pytorch and TensorFlow for predicting weather patterns; Developed statistical analysis tools for large datasets; Created efficient algorithms for computational geometry problems.

## Professional Experience

- **Western Union** Denver, CO
  *Solutions Engineer* *May 2024 - October 2025*

  Spearheading critical technical operations for a global financial services leader, driving innovation in payment systems while ensuring regulatory compliance and optimal performance across enterprise platforms.

  - **Technical Leadership**: Serve as the primary OutSystems technical expert, providing mentorship and knowledge transfer to team members on platform capabilities, best practices, and development workflows, resulting in 30% faster onboarding of new team members
  - **API Migration to Java SpringBoot**: Assited in developing and modernizing legacy MuleSoft APIs which powered backend services into Java Springboot, allowing for increased observability and decreased maintenance and code upkeep. This resulted in a 35% increase in uptime, and increased the rate at which support teams were able to alleviate outages.
  - **Back Office Tool Development**: Designed and implemented an administrative panel for the production environment using OutSystems, enabling support teams to perform CRUD operations on user data without requiring support tickets, reducing resolution times by 65% and saving approximately 20 hours per week in support resources
  - **Monitoring Infrastructure**: Created comprehensive Dynatrace dashboards to monitor environment health metrics and onboarding statistics, enabling proactive issue identification and reducing system downtime by 40%
  - **Incident Management**: Led troubleshooting efforts for user-reported issues, performing root cause analysis and implementing sustainable solutions that decreased recurring incidents by 75%
  - **Compliance Oversight**: Maintained financial industry compliance and risk standards for a consumer-facing payment application, implementing fraud monitoring protocols and security best practices that ensured zero compliance violations

- **SeedBin**
  *Software Developer* *May 2022 - May 2024*

  Delivered innovative agricultural technology solutions through OutSystems and Python development, transforming complex business requirements into scalable, user-friendly applications that revolutionized seed management processes for enterprise clients.

  - **Web Application Development**: Spearheaded the development of the first web-based application on OutSystems for an existing customer from inception to execution, making critical architecture and data model decisions that resulted in a 40% increase in user productivity and 99.9% system uptime
  - **Large Scale Application Architecture**: Led the development of CoverCress, a large-scale application serving 5,000+ users, designing a scalable data model and implementing robust user management functions that reduced data processing time by 60% and improved data accuracy by 35%
  - **Data Pipeline Development**: Engineered robust ETL pipelines using Python and PostgreSQL to process and transform agricultural data from multiple sources, implementing automated data validation and cleaning procedures that reduced manual data entry by 80%
  - **Database Integration**: Designed and optimized PostgreSQL database schemas and queries for efficient data warehousing, resulting in 50% faster data retrieval times and seamless integration with existing business intelligence tools
  - **Application Codebase Refactor**: Executed a major code refactor for a complex product, improving performance by 75%, reducing technical debt by 40%, and enhancing development efficiency by implementing modular architecture and optimized database queries
  - **Client Relationship Management**: Served as the primary technical point of contact for key clients, translating business requirements into technical specifications and delivering solutions that exceeded expectations, resulting in two contract renewals worth $1.2M

## Projects

- **C++ Multi-Platform Application & Game Framework**: Created a robust framework for developing latency critical applications. This framework included a lean Daslang scripting runtime. Daslang was utilized for its extremely high performance (outperforming LuaJIT and achieving near-native C++ speeds), short compile times, static typing, and high portability. This scripting environment was coupled with NVRHI, a low level rendering abstraction over the common graphics APIs, removing unnecessary boilerplate while maintaining low-level expressiveness and a modern feature set.
- **Bindless PBR Renderer**: This renderer was based on the Forward+ rendering model, and built with the previously described application framework. Features include: GPU-based compute shader frustum culling, radiance cascade global indirect lighting, robust post-processing pipeline, Energy-preserving Oren-Nayar BRDF.
- **Event-based Volumetric Computer Vision**: Implemented a novel computer vision algorithm using Rust. This algorithm involved taking the difference between two frames of video and projecting high change pixels into a voxel grid. The resulting data can be aggregated across multiple cameras in different known positions to get highly accurate estimations of positions of moving objects.
- **Financial Data Visualization Dashboard**: Created an interactive dashboard using Python, Pandas, and Plotly to analyze and visualize complex financial datasets, enabling real-time monitoring of key performance indicators and trend identification for investment decision-making.
- **Machine Learning for Agricultural Yield Prediction**: Implemented a predictive model using Python and scikit-learn to forecast crop yields based on historical data, weather patterns, and soil conditions, achieving 92% prediction accuracy and helping farmers optimize resource allocation.

## Technical Skills

- Programming: Python, SQL, C, C++, Rust
- Platforms: OutSystems, ServiceNow, Dynatrace, AWS, Azure
- Software Architecture: Microservices, API Design, System Integration
- Version Control: Git, GitHub, BitBucket, CI/CD Pipelines
- Agile Methodologies: Scrum, Kanban, Sprint Planning
- Data Analysis: Statistical Analysis, Data Visualization, ETL Processes
- Machine Learning: Neural Networks, Regression Models, Classification
- Performance Optimization: Database Tuning, Code Profiling