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Jonathan Carrasco

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Education

Williamstown, MA **Williams College** **Aug 2016 - May 2020**
Computer Science BA • Math Minor • Questbridge Scholar • GPA: 3.8

Employment

CTO & CoFounder **Cordate** **Sep 2024 - Present**

- Launched a social networking app, attracting hundreds of users in 3 months by enabling AI-powered date creation.
- Delivered personalized infinite scrolling user feeds with < 300 ms latency using paginated cursors.
- Cut image load times to < 250 ms by building a multi-resolution upload system with resolution-aware URL caching.
- Engineered sub-1s multi-criteria filtering (PostGIS, prefix search, relationship graph) for user feed queries.
- Doubled DAU to 110 by launching real-time and scheduled push/SMS notifications via GCP Pub/Sub.
- Increased avg. session time 56% by deep linking to profile-centric feeds based on user analytics, boosting retention.
- Increased weekly posted dates 32% by enabling users to describe an ideal date and generating them using Open AI.
- Leveraged Firestore streams to implement responsive (< 200 ms) in-app messaging for up to 30 participants.
- Implemented a data access layer that enables CRUD operations, serialization, deserialization, and paginated queries for SQL (PostgreSQL), NoSQL (Firestore), and storage (Firebase Storage).
- Built a modular serverless API that supports transactional integrity between edits to PostgreSQL and Firebase.
- Reduced onboarding abandonment from 20% to < 5% by implementing a progressive authentication system that gates richer features behind more complete accounts. Users can also browse the app as guests!

Software Engineer II **Esri** **Jul 2020 - Aug 2024**

- Boosted performance 28% across various graph traversal services by implementing dynamic eviction strategies and dynamic associativity in our C++ caching layer.
- Migrated 40K+ users to ArcGISPro by building a fullstack desktop app, leveraging the optimized graph traversals.
- Slashed onboarding time by 80x for 15+ teams by designing an intermediary class that injected timezone-aware logic into legacy systems, abstracting migration complexity.
- Diagnosed performance bottlenecks for ESRI partners, and sped up execution up to 37% with custom solutions.

Researcher at NSF REU **Washington University in St Louis** **Summer 2019**

- Built an interactive React & Django site displaying 2.5K+ restaurants with D3.js dynamic filtering and visualization.
- Used statistical models to infer what restaurants interest users, and ran Statsig A/B tests to determine which UX users preferred: enlarging points of interest, shrinking non-points of interest, or combining both methods.
- Cut model latency from 4.4s to 0.2s by persisting user click history in sessions and optimizing model transfer via BSON serialization in Python.

Projects

Word Searcher

- Built a regex-based Wordle and Spelling Bee solver, supporting prefix, suffix, and containment queries.

Personal Website

- Designed and developed my website to showcase projects and skills as well as experiment with new tech stacks.

Technical Skills

Languages: Dart • SQL • Python • C++ • Typescript • C# • Swift • Java • HTML • CSS • R
Cloud & Infrastructure: GCP (Cloud Scheduler, Pub/Sub) • Azure (Cosmos DB) • Firebase • PostgreSQL
Frameworks & Libraries: Flutter • OpenAI • SQLAlchemy • Flask • Django • React • Pydantic • Sentry • Twilio