Gustavo D'Mello

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https://gustavo.zip

EXPERIENCE

Altra Interactive (Acquired by LeapPoint) — Remote
Software Developer — *Jan 2022 – Present*

- Optimized content management systems for large corporations by leveraging design patterns and best practices
- Maintained internal tools for accelerating client-work by fixing issues, fielding questions, and managing contributors
- Designed a sample project based on common feature requests to prepare new developers for client work
- Accelerated data retrieval for content authors by making an application that converts form data into query strings
- Introduced new and relevant web development technologies, sharing insights and training team members
- Analyzed client requirements in discovery sessions, defining project scope, user stories, and actionable tasks

Michigan Institute for Data Science — Ann Arbor, MI
Research Assistant — *May 2021 – Jan 2022*

- Developed a full stack application for a Native American education department to share opportunities with students
- Secured $50,000 in funding, establishing a reusable model to promote data sovereignty for underserved communities
- Designed a dashboard to view student data and analyze learning outcomes by collaborating with administrators
- Prioritized privacy and security by implementing a strong password strategy that utilized cryptographic hashing
- Consolidated, validated, and migrated student data from various sources to a cloud-hosted document store
- Managed and documented process of deploying to a cloud application platform to improve maintainability

PROJECTS

Pathfinding Solution with Respect to Movement Costs — *github.com/stavguo/phaser-emblem*
- Recreated a pathfinding algorithm used in video games for finding the lowest-cost path through challenging terrain
- Demonstrated algorithm as a playable browser game using an industry-standard software architectural pattern

Synthesizing Realistic Urban Road Networks — *github.com/stavguo/obb-parcelling*
- Increased realism in simulating urban environments by creating an interactive program to subdivide city blocks
- Recursively split polygons based on their minimum bounding box to concisely solve the block subdivision problem

Markdown-Driven Content Management System — *gustavo.zip*
- Developed a portfolio website that leverages Go's templating language to convert Markdown to rendered HTML
- Documented research projects, personal endeavors, interview insights, and other topics to track personal growth

Unique ID Generator using Prime Numbers — *tinyurl.com/2ezsvrsp*
- Implemented the segmented sieve of Eratosthenes algorithm to efficiently generate unique indentification numbers
- Extracted substrings from concatenated prime numbers calculated by sieving a range of numbers in segments

Stepartist — *github.com/aelhamah/stepartist*
- Created an application that promotes outdoor exercise by transforming users' geolocation data into digital geoglyphs
- Designed a menu for users to choose the color and line weight of their walking patterns in order to create art

SKILLS

Languages: Python, Java, C++, C#, C, JavaScript, TypeScript, HTML, CSS
Frameworks: Node.js, JUnit, AEM, Apache Sling
Developer Tools: Git, Docker, Azure, AWS, Google Cloud Platform, VS Code, IntelliJ
Libraries: React

EDUCATION

University of Michigan — Ann Arbor, MI
Bachelor of Science in Computer Science — *Sept 2018 – Dec 2021*