

# Alexander Merola

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## TECHNICAL SKILLS

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**Programming Languages & Frameworks:** Go, Python, React, Javascript, Swift, SwiftUI, HTML, CSS, JSON

**Development & Deployment Tools:** REST & gRPC APIs, CI/CD, Git, GitHub Actions, Docker, Kubernetes, AWS

## SOFTWARE PROJECTS

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### Desserted - Full Stack Game Application

- Engineered a **full stack game** using gRPC and REST APIs with Go, React and PostgreSQL.
- Utilized **web sockets** for **real-time** game updates.
- Implemented a **gRPC gateway** for seamless RESTful/JSON to gRPC conversion
- Ensured security through Paseto for **session management** and leveraged go-swagger for comprehensive documentation.
- Implemented **CI/CD** practices using **Docker** and **GitHub Actions** for reliable and efficient deployment.
- Containerized with **Docker**, and deployed on **AWS** (RDS, EC2, EKS) and **Netlify**.

### Merola Station - Full Stack Model Train Collector Application

- Developed a robust **full stack** web application utilizing a **Go, React, and PostgreSQL**.
- Ensured security with **JWT** access and refresh tokens for **session management**.
- Implemented **CI/CD** with **GitHub Actions**, containerized with **Docker**, and deployed on **AWS** (RDS, EC2, EKS).

### Google Sheets Pixel Worksheet Generator

- Engineered an innovative tool for creating high-quality pixel art worksheets, using **Python, PIL, and Matplotlib**.
- Reduced worksheet creation time from hours to minutes, automating conditional formatting and using Google Sheets API
- Delivered significant value with engaging, interactive worksheets, leading to **over 1,000 sales on TeachersPayTeachers**.

## PROFESSIONAL EXPERIENCE

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### **Full-Stack Software Engineer**, Livvng, Inc. (Pre-Seed Startup)

*Saint James, NY | Feb. 2023 – July 2023*

- Collaborated with the CEO to **develop the company's Minimum Viable Product (MVP)**.
- Developed a **RESTful API** using Go, along with an **iOS application** using Swift and SwiftUI.
- Managed database operations using **PostgreSQL** and **AWS S3** for storage.
- Implemented secure authentication flows (**OAuth 2.0 w/ PKCE**) and integrated **third-party sign-ins**.
- Developed a **3D Room Scan/Floor Plan App** using Swift and SwiftUI, reducing the company's external dependencies.

### **Teacher, Middle School Team Leader, Math Coach**, Round Lake Charter School

*Mount Dora, FL | Aug. 2017 – May 2022*

- Instructed various subjects including Algebra, Computer Science, and Critical Thinking.
- Played a key role in developing and implementing middle school policies and curricula as one of three founding teachers.
- **Led** a team of 15 middle school teachers, and 8 grade 4-5 math teachers, focusing on cohesive instruction and policies.
- Led students to achieve the **highest percentage of Level 5 achievement scores, and 8th highest mean scale score**, in the state of Florida on their Algebra 1 End of Course examinations.
- Recognized by my school as **Teacher of the Year** for the 2021-22 academic year.

## EDUCATION

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### **Stony Brook University–SUNY**

*Post-Baccalaureate Work in Mathematics | June 2012 – May 2013*

### **Colgate University**

*BA in Philosophy | May 2011*