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**Summary**

Backend Software Engineer / Architect with 15+ years of experience designing and implementing high-performance, scalable systems across AWS Cloud, C++/GoLang backend services, and Python-driven automation. Skilled in modernizing legacy applications, building cloud-native solutions, and optimizing infrastructure through IaC (Terraform, Ansible, Docker, CI/CD). Proven track record of improving runtime efficiency by up to 75%, driving cost optimization in cloud environments, and delivering mission-critical systems for enterprises including Google, Yahoo, Atlassian, Bloomberg, and Insurity. Adept at bridging legacy C++ systems with modern Python/GoLang microservices, ensuring performance, security, and long-term maintainability.

**Professional Experience**

**SafeSchoolMap LLC – Cupertino, CA Jan 2025 – Present**

**Technical Co-Founder**

* Architected API platform providing incident reports around schools across the U.S.
* Designed PostgreSQL/PostGIS database with a focus on performance, security, and extensibility.
* Built environments on AWS using Docker (FastAPI, postgREST, pg\_bouncer, PostgreSQL).
* Migrated WordPress frontend to AWS Lightsail and integrated with API layer.
* Implemented GitLab-CI pipelines for production deployments.
* Collaborated with business stakeholders to integrate data from ArcGIS and Crimeometer vendors.
* Enhanced backend API modules in C++ for performance-sensitive geospatial queries, integrating with Python FastAPI services.

**Insurity Inc – Milpitas, CA Oct 2021 – Nov 2024**

**Python / AWS Infrastructure /GO Backend Developer**

* Automated environment setup on AWS via Terraform, Python, Bash, PowerShell, reducing provisioning time from days to hours.
* Developed a RESTful PDF generator using GenAI during a company hackathon.
* Integrated AWS assets from CodeObjects with Insurity, including transit gateways, IAM, WAF, Cloudflare, and monitoring tools.
* Designed a framework for OS-agnostic user data scripts using Terraform and JSON.
* Served as incident manager with on-call responsibilities using Splunk and pager tools.
* Implemented backend microservices in GoLang for infrastructure monitoring and alert automation, deployed on AWS Lambda and ECS.
* Optimized compute-heavy modules in C++ for data processing pipelines, improving runtime performance by 30%.

**CodeObjects (An Insurity Company) Inc – Milpitas, CA May 2019 – Sep 2021**

**Python / AWS /GO Developer**

* Migrated legacy Python 2 scripts to Python 3; automated CI/CD, database refreshes, and reporting tasks.
* Deployed solutions across Elastic Beanstalk, Lambda, EC2, CloudWatch, SNS, SES, and others.
* Drove cloud cost optimization cycles, reducing recurring AWS costs and advising Dev teams.
* Automated infrastructure provisioning with AWS CLI, Python, Bash, and PowerShell.
* Developed high-throughput event-driven services in GoLang to manage insurance transaction data streams.
* Extended C++ legacy libraries to interface with Python scripts, ensuring backward compatibility during modernization.

**Atlassian Corporation – Mountain View, CA Jan 2019 – Apr 2019**

**Python / AWS Developer**

* Refactored Python (Gunicorn) services to leverage bulk I/O with Amazon SQS, improving throughput.
* Contributed to open-source project SQSWorkers, enhancing thread management for Python workers.
* Automated tests with pytest, Scala/Gatling, and maintained CI/CD readiness.
* Managed deployments using Docker and Atlassian’s internal “micros” deployment tool.
* Worked with Datadog and Splunk for monitoring and observability.
* Developed internal developer tools in GoLang for deployment automation and container orchestration.
* Integrated C++ service components with Python workers to improve inter-process communication efficiency.

**Yahoo Inc – Sunnyvale, CA Oct 2017 – Jul 2018**

**C++ / Java Developer**

* Implemented GDPR compliance features for Display Ad Exchange (BrightRoll).
* Integrated metrics (Codahale, Yamas) for GDPR tracking.
* Migrated CI/CD pipelines from Jenkins to Screwdriver.
* Enhanced Ad Exchange features, directly increasing revenue by hundreds of thousands of dollars.
* Onboarded new publishers and integrated bidding rule enhancements.
* Optimized Ad Exchange core modules in C++ for high-volume request handling.

**Alphabet Inc (Google) – Mountain View, CA Apr 2016 – Sep 2017**

**C++ / Python / GoLang Developer**

* Built Spectrum Access System (SAS) client library in C99 with JSON handling.
* Developed automated digital certificate generation system using Python and GoLang in Google App Engine.
* Managed SSL certificates for SAS and test harness.
* Contributed to Wireless Innovation Forum test harness in Python (open-source).
* Authored Protobuf-based test cases ensuring compliance with Winn Forum protocols.
* Created GoLang-based monitoring utilities to validate SAS protocol communications.
* Enhanced C++ modules to optimize performance of SAS partner integrations.

**Yahoo Inc – Sunnyvale, CA Jun 2015 – Mar 2016**

**C++ / Java Developer**

* Implemented security patches for PHP and JavaScript applications, ensuring compliance with enterprise standards.
* Optimized legacy builds by scripting makefile splitting and automated deployment package generation, improving build and CI/CD efficiency on the OpenStack platform.
* Supported PayPal payment gateway integration by implementing new credit card processing requirements.
* Built a C++/STL/JSON mini-schema parser, enhancing payment processing accuracy and compliance.

**Zonar Systems Inc – Seattle, WA Aug 2014 – May 2015**

**PHP / C++ Developer**

* Maintained and enhanced fleet management software, implementing new C++ and PHP features.
* Ensured reliable real-time capture of telematics data from Zonar devices into PostgreSQL databases.
* Improved data integrity and performance of backend processing pipelines.

**Bloomberg L.P. – Manhattan, NY Mar 2014 – Jul 2014**

**C++ Developer**

* Developed new C++/STL modules for a Fixed Income application on the Bloomberg Console.
* Built features integrating JavaScript, SQLite, and XML to enhance functionality and user experience.
* Contributed to performance improvements in financial analytics workflows.

**Endurance Inc – Palo Alto, CA Sep 2013 – Feb 2014**

**VC++ / MySQL / Oracle Developer**

* Migrated a large-scale e-commerce and hosting portal from Oracle DB to MySQL.
* Utilized VC++, Java, Hibernate, MyBatis/iBatis, and SOAP for cross-platform compatibility.
* Enhanced database performance and improved long-term maintainability.

**Fiserv Inc – Sunnyvale, CA May 2013 – Aug 2013**

**Python / Perl / Bash / JavaScript Developer**

* Designed a log parser and storage model using Python, ELK Stack (Elasticsearch, Logstash, Kibana).
* Implemented a JavaScript/AJAX-based front-end for DevOps teams to visualize log data.
* Improved monitoring and troubleshooting efficiency.

**E\*TRADE Financial Corporation – Menlo Park, CA Sep 2011 – Apr 2013**

**Java / C++ / Perl / Oracle Developer**

* Developed new features using C++ RESTful APIs for trading and investment platforms.
* Automated systematic investment plan batch processes using Perl and shell scripts.
* Supported Oracle database integrations for transaction data.

**Networks In Motion Inc – Aliso Viejo, CA Sep 2009 – Aug 2011**

**Python / C++ Developer**

* Built backend systems for the Gokivo mobile navigation app using Python and C++.
* Integrated feeds via JSON, XML, REST APIs, and Oracle stored procedures (ETL).
* Employed test-driven development (TDD) to enhance reliability of mobile app integrations.

**Wells Fargo Bank – West Des Moines, IA Dec 2008 – May 2009**

**JavaScript / Hibernate Developer**

* Built and optimized workflows for Home Loan Application processing.
* Utilized J2EE with Spring, Hibernate, Rhino JavaScript, and Lombardi frameworks.
* Improved loan application processing efficiency and accuracy.

**State Department of Health (via SVAM Inc.) – Albany, NY Oct 2007 – Nov 2008**

**Java Swing / Sybase Developer**

* Modernized Nursing Homes Tracking System by migrating from PowerBuilder to Java Swing.
* Enhanced system performance and user interface reliability with Sybase backend.

**Medco Inc – Somerset, NJ Jan 2007 – Sep 2007**

**C++ / Java Backend Developer**

* Designed and implemented backend features with C++/STL, JavaScript, JSON, Messaging, Oracle.
* Improved website functionality and user experience for healthcare systems.

**NASD – Rockville, MD Jun 2006 – Dec 2006**

**Java / C++ / Oracle Developer**

* Maintained and developed ETL processes for Municipal Bonds and Corporate Stocks.
* Built solutions using Java, Spring, Oracle, and XML to improve data accuracy.

**JP Morgan – Houston, TX Oct 2005 – May 2006**

**C++ / Perl Developer**

* Developed and maintained feed handling ETL code in C++/STL and Perl.
* Built Unix shell scripts with Oracle DB backend to improve processing pipelines.

**Misys Financial – Bangalore, India Sep 2004 – May 2005**

**Senior Software Engineer**

* Enhanced financial product features with C++, increasing performance and stability.
* Used SVN for source code control and collaborative development.

**Scientific Atlanta – Chennai, India Jan 2004 – Aug 2004**

**Senior Software Engineer**

* Built 3-tier monitoring/reporting systems using JSP, SOAP, and C++.
* Implemented multi-threading and synchronization for performance improvements.

**Integra Microsystems – Bangalore, India Sep 2000 – Jan 2004**

**Senior Software Engineer**

* Delivered multiple embedded and systems projects for Samsung, Motorola, Rockwell Automation.
* Developed applications using VC++/C++ on Windows, Linux, and embedded platforms.

**Khodayss Systems – Bangalore, India Sep 1999 – Sep 2000**

**Programmer**

* Built desktop applications in Visual Basic and web apps using ASP 3.0 / IIS.
* Improved user experience and system efficiency for enterprise solutions.

**Education & Certifications**

**Madurai Kamaraj University** – Master of Computer Applications (MCA)

**Harvard Extension School** – CS50 (Computer Science: C, Python, Web Development)

**Amazon Web Services (AWS)** – Certified Solutions Architect – Associate