

# Philip Damra

AWS Certified Developer & DevOps Engineer



Expertly crafting engaging web applications and solving business problems using cutting-edge technology, caffeine, and a little magic

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## Skills & Experience

### System Design

#### Modeling Business Processes in Software

I adeptly use the principles of domain-driven design and advanced architecture patterns to quickly understand the business domain and craft software that efficiently models business processes in code. Additionally, I have developed expertise in tools that effectively orchestrate complex workflows, such as client-side state management, state machines, message brokers, worker queues, and event-sourcing.

### Web Application Development

#### Full-Stack Web Applications with React & Node.js

I am well-versed in the Node.js ecosystem, leveraging my experience with tools such as Typescript, Nest.js, ExpressJS, and React, along with databases like MongoDB, DynamoDB and PostgreSQL to build scalable, resilient, and performant web applications. This, combined with my expertise in API design (REST and GraphQL), and React client-side state management (using tools like Redux and Redux-Saga) allows me to build robust, scalable, well-tested web applications that meet the needs of the business and its users.

### DevOps & CI/CD

#### Shipping Code Daily with Automated Pipelines and IaC

With multiple AWS certifications and deep experience with tools such as GitHub Actions and AWS CodePipeline, along with infrastructure-as-code tools like AWS CD and Terraform, I am able to automate the deployment of code and infrastructure, ensuring that software is shipped frequently and with confidence.

## Tech Stack Details

### Libraries, Frameworks & Software

#### Highly Proficient

- **Frameworks & Libraries:** Node.js, ExpressJS, NestJS, ReactJS, AWS SDK, AWS CLI, AWS CDK, Jest, Karma, Chai, Apollo GraphQL, Mocha, TypeORM, Mongoose, OpenAI API.
- **Services and Software:** Typescript, JavaScript, PostgreSQL, MongoDB, MySQL, GitHub Actions, OAuth/OIDC, Auth0, RabbitMQ, Docker.
- **AWS Services:** Lambda, ECS, DynamoDB, RDS, SQS, SNS, S3, EventBridge, Step Functions, Route53, CloudFormation, CodePipeline, CodeBuild, CloudWatch, CloudFront.

#### Experienced

- **Frameworks & Libraries:** Next.js, TailwindCSS, React-Router, Feathersjs, Middy, RxJs, Sequelize, Prisma, Terraform, Langchain.js.
- **Services and Software:** ElasticSearch, MQTT, Redis, Kubernetes, Pinecone, GitLab.
- **AWS Services:** API Gateway, Kinesis, EC2, Cognito, ElastiCache, OpenSearch, Amplify.

#### Some Exposure

- **Frameworks & Libraries:** Koa, Relay, Loopback, Java Spring Boot, AWS SAM, Ansible.
- **Services and Software:** Redshift, Neo4j, EventStore, Cassandra.
- **AWS Services:** CloudTrail, Athena, Lightsail, EKS, Workspaces, Chime, Bedrock.

# Work History

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Nov 2024-Present

## Senior Software Engineer @ College Board - Phoenix, AZ (Remote)

At College Board, I contribute to the CLEP program by designing, developing, and maintaining robust, event-driven microservices and front-end features. Highlights of my role include:

- **Event-Driven Microservices:** Architected and implemented scalable, event-driven microservices on AWS that process CLEP registration and scoring events in real-time, using API Gateway, AppSync, Lambda, DynamoDB, SQS, SNS, and EventBridge. This design improved system reliability, reduced processing latency by automating end-to-end workflows, and ensured seamless handling of peak loads during exam windows.
- **Front-End Feature Development:** Developed and optimized new features for a React.js single-page application consuming an AppSync GraphQL API, including dynamic dashboards and interactive forms. These enhancements improved user navigation, streamlined exam registration flows, and increased overall user satisfaction by delivering responsive, accessible interfaces.
- **Test Automation:** Created and maintained comprehensive Playwright automation suites for end-to-end UI and API testing, covering critical user journeys.
- **Operations Scripting:** Authored Bash and TypeScript scripts to automate daily operational tasks such as log aggregation, database migrations, and deployment orchestration. These scripts eliminated manual interventions and ensured consistent environments across staging and production.

Sep 2021-Oct 2024

## Lead Software Engineer @ Ensomata - Atlanta, GA (Remote)

At Ensomata, I lead the architecture and development of critical infrastructure and backend services for our flagship application, used across a network of family practice medical centers. Highlights of my role include:

- **Architectural Leadership:** Directed the design and implementation of a cloud-native, serverless architecture written in Typescript using AWS Step Functions, ensuring efficient data handling and scalability. This system orchestrates complex workflows for patient data integration from Electronic Health Records (EHR), enhancing the preparation process for patient visits.
- **API Development and Integration:** Spearheaded the development of a robust GraphQL API, facilitating seamless data integration from diverse sources including RESTful services and serverless functions. This approach significantly improved data retrieval times and user experience in the clinical setting. **Operational Efficiency:** Designed and implemented CI/CD pipelines, operational tools, and monitoring dashboards using AWS CodePipeline, CodeBuild, and CloudFormation, reducing manual tasks by 15%. This initiative not only cut operational costs but also bolstered system reliability and performance stability.
- **Impact on Clinical Operations:** Contributed to the development of an interactive app module that supports medical assistants in capturing patient vitals and history more efficiently than traditional EHR systems. This enhancement has streamlined clinical workflows, improving patient throughput and satisfaction.
- **Team Leadership and Mentoring:** Managed a team of developers, fostering a culture of technical excellence and innovation. Mentored junior developers, enhancing team skills in cloud solutions and modern API integrations.

Oct 2018-Sep 2021

### Senior Product Developer @ Dealer Inspire - Naperville, IL (Remote)

At Dealer Inspire, I was integral in the development of a state-of-the-art inventory management system for automotive dealerships, significantly enhancing sales operations and inventory accuracy. Key contributions include:

- **Application and Infrastructure Modernization:** Led the transformation of deployment practices by transitioning from manual Bash scripts to a robust AWS CDK-based infrastructure as code approach. This shift not only streamlined deployments but also enhanced the scalability and maintainability of the infrastructure.
- **CI/CD Implementation:** Architected and implemented CI/CD pipelines using AWS CodePipeline and Bitbucket Pipelines, significantly reducing deployment times and improving code quality. This initiative contributed to a 40% increase in transaction speeds for clients by facilitating more frequent and reliable updates.
- **Full Stack Development:** Oversaw the design and development of the system's front-end using Typescript along with React.js and the backend using Express.js. Enhanced API capabilities by integrating a GraphQL service with Apollo, improving data interaction and retrieval efficiencies.
- **Database and Serverless Integration:** Managed PostgreSQL and MongoDB databases with advanced full-text and faceted search capabilities and developed serverless functions to handle real-time inventory updates from various vendors, ensuring high data accuracy and availability.
- **Leadership and Mentorship:** Provided leadership and mentorship to a team of developers, promoting agile development practices and fostering a culture of technical excellence. My focus on professional development helped elevate the team's capabilities in modern software practices and cost-effective infrastructure solutions.

Feb 2017-Oct 2018

### Senior Application Developer @ GSTV - Detroit, MI (Remote)

At GSTV, I played a key role on a small team shipping a sophisticated advertising delivery system that automated the scheduling and display of video advertisements at gas stations nationwide. Key achievements include:

- **Advanced Scheduling System Development:** Participated in the design and implementation of a complex scheduling algorithm that tailored ad placements based on time of day, geographical zip codes, and local demographic data. This system significantly enhanced targeted advertising capabilities and viewer engagement.
- **Microservices Architecture:** Developed and orchestrated a suite of Express.js microservices, utilizing AWS SQS and SNS for reliable message queuing and notifications, ensuring seamless distribution of advertisements to thousands of locations.
- **Frontend Development and UI/UX Design:** Contributed to the development of a React.js-based single-page application, enabling efficient management and real-time updates of programming schedules. This interface provided GSTV with a powerful tool for streamlining operations and enhancing user interaction.
- **Scalability and Resilience:** Engineered solutions utilizing MongoDB for data storage and AWS services to scale up the application's infrastructure, accommodating the high data throughput necessary for nationwide service delivery.
- **Infrastructure Management:** Assisted in operations and deployment (via Jenkins) of applications in a Kubernetes environment, optimizing for scalability and resilience. This included setting up monitoring, logging, and continuous deployment pipelines to ensure high availability and performance.

Aug 2016-Feb 2017

### Senior Full-Stack Developer @ Campspot - Grand Rapids, MI (Remote)

As a key member of a trio of senior developers at Campspot, I contributed to the creation of a comprehensive SaaS platform designed to streamline campground management and reservation processes. My contributions spanned from initial concept through to deployment.

- **Full Lifecycle Development:** Engaged in all phases of the project, from architecture, system planning, and frontend development to API construction, testing, and deployment, ensuring a robust product that meets the needs of camp operators.
- **Frontend and Backend Integration:** Developed the frontend using AngularJS, creating a user-friendly public reservation interface and an administrative panel for campground management. Paired this with efficient backend services built on Node.js and Java Spring Boot to handle complex business logic and data transactions.
- **Point-of-Sale System Implementation:** Played a pivotal role in integrating a point-of-sale system for campgrounds, facilitating on-site transactions for concessions and gift shops, enhancing the utility and profitability of the platform.

Feb 2015-Aug 2016

### Software Engineer @ Varsity News Network - Grand Rapids, MI (Remote)

At VNN, I specialized in enhancing digital engagement and operational efficiency for high school athletic departments through custom software solutions:

- **WordPress Plugin Development:** Developed custom WordPress plugins and themes that enabled high schools to dynamically share athletic schedules, game results, and updates directly on their websites and across social media platforms, significantly boosting engagement with students and parents.
- **AngularJS Applications:** Created AngularJS applications for administrative tasks, such as athlete registration and results tracking, improving the accuracy and efficiency of sports management.
- **API Development:** Engineered hypermedia REST APIs using PHP and PostgreSQL, facilitating robust data interactions and integration with existing school systems.

Nov 2013-Feb 2015

### Software Engineer @ US Signal - Grand Rapids, MI

At US Signal, I was instrumental in the development of a bespoke CRM system tailored to the unique needs of a regional internet service provider:

- **CRM System Development:** Led the design and implementation of a comprehensive CRM system with integrated ERP features that managed customer relationships, sales processes, and internal workflows specific to network installations and monitoring.
- **Full Stack Development:** Utilized Zend Framework 2 and Doctrine ORM for robust backend feature development, paired with JQuery UI on the frontend to create intuitive user interfaces, enhancing user interaction and operational efficiency.
- **Agile Leadership:** Achieved ScrumMaster certification and served as one of three rotating Scrum Masters, fostering agile methodologies within the team to optimize product development cycles and team collaboration.
- **Tech Stack Versatility:** Advanced the application's capabilities using a PHP hypermedia REST API, ensuring high scalability and performance to support growing business demands.

Apr 2011-Oct 2013

### Senior Full-Stack Developer @ CU\*Answers - Grand Rapids, MI

At CUAnswers, I developed key integrations for CUBASE, a core transaction processing platform for credit unions, enhancing system functionality and partner connectivity:

- **Integration Development:** Spearheaded the design and implementation of applications that interfaced with CU\*BASE through a TCP API using fixed-string formats, enabling critical functionalities such as loan submission and new member verification.
- **Diverse Technologies:** Utilized a combination of Node.js and Python to build robust web applications, effectively integrating with both RESTful and SOAP web services.
- **Messaging and Workflow Automation:** Integrated applications with distributed messaging networks, optimizing workflow processes and improving data accuracy and security in compliance with industry regulations.

Feb 2006-June 2009

### Web Developer @ Media Genesis - Sterling Heights, MI

At Media Genesis, a key subcontractor for agencies serving the "big 3" automakers, I specialized in developing interactive and educational multimedia content, as well as bespoke web applications:

- **Multimedia Course Development:** Developed SCORM-compliant interactive training courses using Adobe Flash, tailored for new model introductions in the automotive industry. These courses were crucial in training sales and service staff on new features and enhancements.
- **API and CMS Development:** Engineered custom PHP APIs that integrated seamlessly with Flash applications, enhancing the interactivity and functionality of training modules. Additionally, developed robust content management systems and bespoke APIs for non-profits and small businesses, demonstrating a broad capability in web development.

## Work Projects

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Ensomata - Aylo Patient Sync

### Orchestrating Complex Workflows with Cloud-Native Architecture

I led the development of the Patient Sync application, a cloud-native solution designed to enhance patient care by seamlessly integrating FHIR-compliant APIs with Electronic Health Records (EHR). This application utilized AWS Step Function applications to orchestrate complex workflows, ensuring efficient data synchronization and automated preparation for patient encounters. This architecture optimized the visibility of essential health information for practitioners.

Dealer Inspire - METAL Automotive Inventory Management

### GraphQL-Based SaaS Product for Automotive Dealerships

As a senior developer, I played a pivotal role in advancing the METAL project, a sophisticated inventory management system for automotive dealerships. I led the redesign of the entire AWS cloud infrastructure employing Infrastructure-as-Code (IaC) principles with the AWS CDK toolset, enhancing performance, and achieving significant cost reductions. The project also included implementing automated scaling, a serverless image sync application, further enhancing the handling of complex business processes across multiple teams.

## CU\*Answers - FIS QualiFile Integration Service

### ChexSystems Qualifile Integration for Credit Unions

Developed a high-availability Node.js TCP/IP service that facilitates the integration between credit union member data processing systems and the ChexSystems QualiFile for new member account decisioning. This robust application listens for incoming requests, converts them into SOAP calls, and securely encrypts responses, serving dozens of credit unions across the US. The solution enhances the member onboarding processes and reduces risk for Credit Unions.

## Personal Projects

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### Prosaist.io

#### SEO Optimized AI-Generated Blog Content - <https://prosaist.io>

Prosaist.io is a SaaS platform I developed that leverages the OpenAI API to generate SEO-optimized blog content. Users purchase tokens via Stripe integration, then use them to commission customized blog articles based on selected topics and keywords. The stack includes a Next.js frontend written in Typescript and MongoDB, with a serverless architecture employing AWS Lambda to handle event-driven tasks like crafting prompts and invoking the OpenAI API. Additionally, the application is styled with Tailwind CSS, offering a modern, responsive user experience. This project effectively combines advanced API integration and modern web technologies to facilitate efficient, tailored content creation. [View some generated sample content here.](#)

### Public Presentation

#### Reviews API with Sentiment Analysis - <https://github.com/djheru/reviews-api-sentiment-workflow>

As the leader of the "AWS Cloud Native Guild" at Dealer Inspire, I developed and demonstrated an API project to educate the team on utilizing AWS Managed Services effectively. This example is a "customer reviews API" that integrates with Amazon Comprehend for sentiment analysis. The API features an asynchronous workflow that begins with a GraphQL mutation via AWS AppSync. This initiates an AWS Step Functions orchestrated workflow to analyze review sentiments using Amazon Comprehend. If a review is negative, the workflow automatically triggers an email notification to a support team member. The infrastructure is managed using AWS CDK, illustrating a practical implementation of cloud-native technologies and event-driven architecture in a real-world application scenario. This project not only showcased the integration of multiple AWS services but also served as a practical learning tool for the team.

### You Betta Rekognize

#### Serverless Twitter Image Recognition Bot - <https://medium.com/@djheru>

I authored a detailed Medium article that outlines the creation of a Twitter bot @YRekognize utilizing AWS Lambda for computational tasks and AWS Rekognition for image analysis. This bot intelligently responds to tweets containing images by describing their contents and identifying objects, animals, plants, and people. When it detects celebrities or notable figures, it enriches the response with relevant Wikipedia or IMDb links. This project demonstrates my expertise in integrating diverse technologies to craft interactive and innovative solutions to engage and inform users.

[Autocaption.tv](#)

○ **Serverless Event-Driven Video Transcription Service** - <https://autocaption.tv>

AutoCaption.TV is a project I developed to streamline the process of generating captions for video content. Users can upload video files to an Amazon S3 bucket, triggering a workflow that first utilizes AWS MediaConvert to extract audio from the video. The extracted audio is then transcribed using AWS Transcribe, and the results are formatted into SRT or VTT files for use as captions. This seamless workflow demonstrates my ability to leverage AWS services to create low-cost solutions for a variety of industries.

## Certifications

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[Amazon Web Services](#)

○ **AWS Certified DevOps Engineer - Professional**

[View certification details](#)

○ **AWS Certified Developer - Associate**

[View certification details](#)

## Social

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[LinkedIn](#)

○ **Professional Network**

<https://www.linkedin.com/in/pdamra/>

[GitHub](#)

○ **Personal/Educational Projects**

<https://github.com/djheru>

[Medium](#)

○ **Medium.com Posts**

<https://medium.com/@djheru>