Kidus Befekadu

Senior Software Engineer

✉ kiddbefekaduwork@outlook.com

🌐 www.linkedin.com/in/kidus-befekadu

📞 +1 (469) 464-9548

🏠 3023 Park Row Ave, Dallas, TX 75215

Senior Software Engineer with 10+ years of experience designing and building scalable, cloud-native applications and distributed backend systems using Node.js, TypeScript, NestJS, and Express.js. Deep expertise in architecting resilient microservices, real-time data pipelines, and intelligent systems that integrate LLMs, analytics, and event-driven architectures.

Strong full-stack background with hands-on experience in React, Angular, and Flutter, complemented by advanced DevOps and cloud engineering skills across AWS and Azure, including serverless and containerized platforms. Proven track record of delivering reliable, production-grade solutions in finance, healthcare, and education, consistently aligning technical decisions with measurable business outcomes.

Highly experienced with Kafka, gRPC, Terraform, Docker, and Kubernetes, and actively building AI-enabled systems using OpenAI APIs, PyTorch, and TensorFlow. Known as a collaborative engineer and mentor who raises code quality, system reliability, and team velocity while maintaining a strong focus on long-term maintainability.

Experience

Senior Software Engineer   October 2022 - Present

Year Up United   New York City, NY

- Designed and built scalable backend services and data-processing pipelines using TypeScript and Node.js (NestJS, Express.js), supporting workforce and job-placement platforms used by 5,000+ students annually.
- Architected microservices-based systems with clean domain boundaries, enabling reliable scaling, independent deployments, and long-term maintainability.
- Developed automated data workflows using cron jobs, Redis, and Kafka, implementing robust event-driven pipelines for real-time ingestion of student, employer, and program-performance data.
- Implemented secure authentication and authorization across services using OAuth2, JWT, and RBAC, standardizing identity flows and ensuring compliance for sensitive student-data systems.
- Built high-performance analytics APIs and reporting services using AWS Lambda, S3, and RDS, delivering low-latency, serverless endpoints for operational insights and leadership dashboards.
- Integrated OpenAI APIs and LangChain into backend workflows, designing prompt-chaining logic and vector-embedding pipelines to automate resume evaluation and generate personalized course recommendations.
- Developed internal front-end tools using React, Tailwind CSS, and TanStack React Query, enabling coaches to visualize ML-driven student profiles and behavioral insights through intuitive dashboards.
- Built and deployed machine learning prototypes using Python, PyTorch, and TensorFlow, exposing model inference via lightweight Node.js APIs for dropout prediction and skill-gap detection.
- Led the migration from a monolithic legacy system to a NestJS-based microservices architecture, significantly improving modularity, deployment flexibility, and system reliability.

- Developed reusable Terraform modules to standardize cloud infrastructure provisioning for Node.js services, reducing environment drift and improving cross-team consistency.
- Modernized CI/CD pipelines using GitHub Actions, Docker, and Kubernetes, implementing automated testing, preview environments, and multi-cluster deployments to accelerate release cycles.
- Collaborated closely with product, coaching, and employer-relations teams, translating business requirements into scalable technical solutions, while mentoring junior engineers and reviewing production code.

Senior Software Engineer   *January 2018 – September 2022*

NTT DATA North America   *Plano, TX*

- Led backend development for distributed systems using Node.js and TypeScript, modernizing large-scale logistics and finance platforms through scalable, modular service architectures.
- Migrated 20+ production microservices from IBM Bluemix to AWS ECS, redesigning deployment workflows to improve scalability, fault tolerance, and cloud cost efficiency.
- Delivered React-based frontend features, building reusable components, optimizing state management, and streamlining workflows for operations and analytics teams.
- Introduced Terraform-driven infrastructure automation and Jenkins CI/CD pipelines, enabling reliable, repeatable deployments across development, staging, and production environments.
- Implemented real-time event-driven messaging using Apache Kafka, supporting low-latency communication and high-throughput data processing across distributed services.
- Improved system observability and reliability using Azure Application Insights and the ELK stack, enhancing telemetry and traceability while reducing mean time to resolution by 35%.
- Built automated regression, integration, and performance testing pipelines using Jest, Mocha, and Gatling, strengthening release quality and production stability.
- Partnered with clients in transportation, healthcare, and finance, delivering systems that met strict requirements for compliance, performance, and data security.
- Mentored distributed engineering teams and established GitLab Flow version-control practices, improving code quality, collaboration efficiency, and delivery consistency.

Software Developer   *September 2016 – December 2017*

Click Therapeutics, Inc   *New York, NY*

- Built cross-platform mobile applications using React Native, React, and Node.js, delivering FDA-regulated digital therapeutics with secure data flows and clinically validated user experiences.
- Designed a YAML-driven UI rendering engine that dynamically generated mobile layouts, enabling non-technical clinical teams to configure workflows without code changes.
- Architected backend services using Express.js, GraphQL, and Python/Django, implementing HIPAA-compliant data handling, audit logging, and secure API boundaries.
- Built CI/CD pipelines using AWS CodePipeline and Docker, establishing reproducible build processes and supporting frequent, regulation-safe releases.
- Implemented security controls using AWS KMS and Cognito, providing robust encryption, user authentication, and fine-grained access management for regulated environments.
- Implemented i18n-ready architecture to support localized clinical workflows for European and Japanese markets, meeting translation, formatting, and compliance requirements.
- Collaborated with scientists and clinicians to convert behavioral research models into interactive software features, integrating experimental logic into therapeutic applications.

Web Developer   *September 2015 – August 2016*
TAMM Net, Inc   *Atlanta, GA*
- Assisted in developing HIPAA-compliant RESTful APIs using Node.js and Java Spring Boot to support secure clinical data exchange across healthcare systems.
- Contributed to risk-analytics and data-processing pipelines using PostgreSQL, MongoDB, and AWS Lambda, helping process more than 8M patient records with reliability.
- Implemented JWT-based authentication and basic RBAC features across API gateways under senior engineer guidance.
- Supported automated deployment workflows using Jenkins and Docker, and helped configure monitoring through AWS CloudWatch and X-Ray.
- Collaborated with UI teams to draft and refine OpenAPI/Swagger specifications, improving backend–frontend integration and onboarding clarity.
- Practiced test-driven development using Mocha and JUnit to reduce defects and improve confidence in new feature development.
- Worked with clinicians and data engineers to refine compliance-focused data models, helping ensure accurate representation of patient workflows and regulatory requirements.

Education

The King's College   *New York City, NY*
Bachelor of Computer Science   May 2011- August 2015

Skills

- **Programming Languages:** JavaScript(ES6+), TypeScript, C/C++, Python
- **Frontend Development:** React, React Native, Next, Angular, Context API, Mobox, Bootstrap, MUI, Angular Material, NgRx, Flutter, RxJS, TanStack Query, Tailwind CSS
- **Backend Development:** Node.js, Express.js, Nest.js, JWT, OAuth2, RabbitMQ, Apache Kafka, Microservices, OpenID Connect
- **Cloud Services & Serverless Architecture:** AWS Lambda, S3, EC2, Azure, GCP, Firebase, Terraform
- **Database Management:** MongoDB, MySQL, PostgreSQL, Redis, DynamoDB, Amazon RDS, Azure Cosmos DB
- **AI / ML & Data Science Tools:** TensorFlow, PyTorch, LLMs, NLTK, Scikit-learn, Open AI GPT Models
- **DevOps & CI/CD:** GitHub Actions, Docker, Kubernetes, Azure DevOps, AWS CI/CD, GitLab
- **API Integration & Data Handling:** RESTful APIs, GraphQL, SOAP, gRPC, WebSockets