

Gareth Ng | Software Engineer

garethng@gmail.com • [garethng.com](https://github.com/garethng) • 814-321-7168 • [linkedin.com/in/garethng](https://www.linkedin.com/in/garethng)

EXPERIENCE

Nova joinnova.co (Software Engineer) React/Next.js, TypeScript, Firebase, Google Cloud, Radix UI **July 2021 - January 2023**

- Co-led UI redesign and rebranding of app, resulting in a 15% surge in views and user engagement/post
- Implemented React Testing Library unit tests, Cypress e2e tests, and GitHub Actions for CI/CD, reducing bugs by 9%
- Designed and developed email service with SendGrid, sending 200k emails/month with a 75% unique open rate
- Optimized backend by reducing daily Firebase Cloud Function calls from 200k to 15k, cutting cloud costs by 2%
- Automated weekly digest newsletter with Firebase, Mailgun, and Google Cloud Platform serverless functions, saving marketing team 10+ hours/week
- Crafted Next.js/TypeScript frontend for creating and showcasing event-themed NFTs
- Built internal component library with Storybook, styled-components, and Radix UI, amplifying developer productivity
- Architected Mailgun email flow for sending and minting of NFTs for large-scale events with hundreds of attendees
- Enforced WAI-ARIA accessibility best practices, leading to flawless Lighthouse scores and enhanced usability
- Coordinated technical recruiting initiatives by designing comprehensive interview questions, conducting interviews, and leading the onboarding of new hires

Camera assistant - Freelance film industry

July 2019 - February 2021

PROJECTS

App Deployment Platform github.com/gcn12/deployment-app AWS, EC2, SSM, Route53 **March 2024 - Present**

- Facilitated seamless app deployment directly from GitHub repositories, requiring zero configuration from users
- Utilized AWS Systems Manager to configure Elastic Compute Cloud (EC2) instances directly from Express.js server
- Leveraged server-sent events (SSE) to deliver real-time updates to users on the Next.js frontend
- Integrated Route53 SDK to allocate unique domains for apps

AI Notes App github.com/gcn12/notes-ai Next.js, Supabase, OpenAI, AWS, Fargate, ECS **October 2023 - November 2023**

- Developed AI-powered semantic search functionality within a Next.js and Supabase app deployed on AWS
- Utilized AWS Fargate and Elastic Container Service (ECS) for efficient container orchestration and deployment
- Defined and managed infrastructure through Terraform and Docker for streamlined Infrastructure as Code (IaC)
- Integrated Elastic Load Balancer and Auto Scaling Groups to ensure high availability and efficient distribution of traffic
- Leveraged OpenAI APIs to translate textual inputs into numerical representations called vector embeddings, ensuring precise search results by capturing textual relationships and semantic meanings
- Configured rate limiting service with Redis and token bucket algorithm, minimizing costs and resource usage

Vocalize - Conversation Skills Builder usevocalize.com Next.js, Express.js, Twilio **August 2022 - September 2023**

- Built and designed Next.js app featuring video and voice calling, community page with posts/comments, user directory, real-time messaging, and analytics
- Integrated Twilio Video API to enable 250+ concurrent global video calls
- Guaranteed at-least-once delivery of emails with BullMQ message queue and Resend email API
- Created secure authentication and authorization service with OAuth 2.0 and magic email links
- Implemented scalable real-time messaging using WebSockets and Redis Pub/Sub

EDUCATION

Pennsylvania State University Bachelor of Science

Graduated 2019

TECHNICAL SKILLS

- **Frontend:** React, Next.js, JavaScript, TypeScript, Storybook, HTML, CSS, Tailwind, RadixUI, Framer Motion, tRPC
- **Backend:** Express, Node, Redis, SQL, Prisma, Postgres, WebSockets, Firebase, BullMQ, Turborepo, Nest.js, Python
- **Infrastructure:** AWS, Terraform, Docker, EC2, S3, ECS, IAM, Fargate, Elastic Load Balancer, Elastic Container Registry
- **Other:** Cypress, Jest, React Testing Library, Figma, SendGrid, GitHub Actions, Playwright, Google Cloud, Sentry