

Daniel S. Marshall

Passionate full stack developer with experience developing, delivering, and deploying enterprise software solutions.

EXPERIENCE

Billtrust, Lawrenceville NJ — Lead Software Engineer

2019 - PRESENT

Billtrust is an industry leader in the enterprise payment software space. As a Senior Software Engineer on the payments team I work to develop, support, and test software which processes business-to-business payments through various channels such as credit card, ACH, Echeck. I also ensure that applications and micro services are compliant with PCI and NACHA regulations. Since being promoted to Software Development Manager I have added technical planning and project coordination, deployment orchestration, and team resource management to my list of skills and responsibilities.

MNGHealth, Bensalem PA — Software Engineer

2015 - 2019

MNGHealth provides data driven solutions for the pharmaceutical industry. As a part of the product support team I fixed bugs, improved existing code bases, and worked closely with the client facing divisions of the company to ensure that the customer's needs were met. After moving to the new development team I was responsible for planning, developing, and deploying new applications and features.

CompuData, Philadelphia PA — Support Analyst

2014 - 2015

CompuData is an IT services company specializing in cloud based software platforms. As a support analyst I addressed networking issues, security threats, responded to support tickets, and automated operational tasks.

EDUCATION

Kutztown University of Pennsylvania — B.S. Computer Science

2011 - 2015

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SKILLS

Building RESTful Web APIs

Building customer facing front-end web applications

Data layer design and query optimization

Deploying software using CI/CD best practices

Production support for existing applications

Cloud infrastructure design & management

Team/Project Leadership

Interpreting product needs during development planning

PROGRAMMING LANGUAGES

C#, Go, Javascript, TypeScript, HTML, CSS, C/C++, Python, SQL, JAVA

DEVELOPMENT PLATFORMS

.Net, ASP.NET, Gin, Angular 2.0+, Angular JS, Electron, NodeJS, React, Next.js

TECHNOLOGIES

Visual Studio, VSCode, MySQL, MS SQL Server, AWS, Microsoft Azure, Docker, IIS, NGINX, Git, Postman, SendGrid, Jenkins, SDL2, Terraform, Terragrunt, Splunk, DataDog

NOTABLE PROFESSIONAL PROJECTS

Billtrust Payments Platform — *Business to Business Payment Processor*

The Billtrust Payment Platform is a collection of RESTful Web APIs which are used to process business-to-business payments. The platform consists of ASP.NET and NodeJS microservices. I personally worked on almost every service in the platform but contributed most to the credit card processing services. These card services route transaction requests to specific card processing gateways, vault payment information, store merchant credentials, and maintain payment state, and log events. This platform currently processes billions of dollars in business-to-business transactions per year. The services are built and containerized using Docker and deployed to an AWS ECS cluster. All services require a verbose suite of Unit, Integration, and Functional tests in order to adhere to the CI/CD process. Technologies used: ASP.NET, NodeJS, Terraform, MySQL, AWS, Docker, Jenkins, Postman.

This project includes many ongoing features that have been implemented largely as microservices and microservices enhancements. Notable features/capabilities include:

- Real Time Payment Processing - Interfacing with numerous card gateway APIs and banks to customer process payments.
- Payment Account Vaulting - Compliant and secure centralized storage of sensitive customer data like credit card information and bank account details.
- Card Information Verification - Identification of a credit card's identifying information and capabilities as well as processing card refresh information.
- Event Broadcasting - Uniform platform wide publication of notable events such as payment state vents, payment/merchant account updates, etc.
- Anomaly Detection - Alerting system that scans for problematic system patterns and alerts first responders.
- Fraud Detection Monitoring - Real time payment fraud monitoring.

Merchant Registration UI — *Merchant Account Configuration App*

The Merchant Registration UI (or MARS UI) is a frontend application where users configure their merchant accounts so they can be leveraged by the Billtrust Payment Platform. The users can enter their merchant account credentials, verify their access, configure their level II/III interchange fields, and retrieve credential tokens that represent their secure data. The MARS UI is written in Angular 17 and integrates into the Billtrust's composite frontend as an Angular module. Technologies used: Angular 17, Jenkins, Postman, Karma, Typescript, AWS, Docker.

Email Edge — *SendGrid Backed Email Campaigning UI*

An email campaigning tool for deploying prepared email messages to thousands of individual HCPs at a time. The application is made up of several discrete parts including a user interface, email processing engine, email queueing service, SQL database backend, and an API for queueing and deploying jobs. EmailEdge leveraged SendGrid's Mail API. Technologies used: MVC, HTML, CSS, JQuery, Knockout, SignalR, ASP.NET WebAPI, Windows Services, SQL Server/TSQL.

Data Load Portal — *Pharmaceutical Data Ingestion Engine*

The application which loaded incoming client data into MNGHealth databases and applications. The application utilized a full suite of data retrieval, parsing, and processing steps to ensure that MNG's data driven services had access to the data they relied on to function optimally. Client data came from various sources needed to be processed and normalized so it can be utilized by company applications. Developing and optimizing these data intake flows greatly accelerated productivity and decreased down time due to lack of automation. Technologies used: Windows Services, NServiceBus, SQL Stored Procedures, and MVC.