

# Avery Acker

📍 Texas ✉ averyacker2@gmail.com 📞 3614059427 🌐 in/avery-acker-b41537135/ 🌐 http://averyacker.com/

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## SUMMARY

Serving as a software engineer III in HNTB's Chicago office developing robust code for high-volume business. She brings over four years of professional experience, including the design and development of portals and the customization of sites, workflows, web parts, apps using server-side (C# and SQL), custom applications, and .NET Core/ASP.NET web applications. She also specializes in creating software applications and maintaining the data for HNTB's clients. Before HNTB, she developed web and mobile apps, including a software controller system using React JS and Electron, for police officers and emergency vehicles. Her technical experience includes C#, Blazor, JavaScript, GIT and NPM

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## EXPERIENCE

### Software Engineer III

HNTB

February 2023 - Present, Chicago, IL

- Design and develop software applications.
- Perform coding, debugging, testing, and troubleshooting throughout the application development process.
- Work closely with other engineers and stakeholders to ensure that the software meets business requirements.
- Participate in code reviews and provide feedback to other developers.
- Write technical documentation for software applications.
- Mentor junior-level software engineers.
- Performs other duties as assigned.

### Software Developer II

HNTB

January 2020 - February 2023, Austin, TX

- Develops moderately complex new applications based on the project requirements document and an understanding of client needs.
- May lead small projects of limited scope and complexity.
- Designs user interfaces for web-based applications based on an understanding of data use and client needs.
- Provides user support and solves moderately complex technical problems with legacy applications or systems.
- Meets with business and technology staff to understand and document system requirements.
- Thoroughly documents and tests all work produced.
- Develops programming specifications, logic flow charts, and process diagrams.
- Codes, tests, debugs, and refines programs on multiple applications at a moderate difficulty level. May review work performed by junior staff.
- Continually evaluates work processes and contributes to technology, methodology, and process standards.
- Performs other duties as assigned.

### Software Developer

Feniex Industries

May 2018 - November 2019, Austin, TX

- Provide a high-level overview of the position in three or four concise, comprehensive statements. Describe the job's organizational purpose and how it adds value to HNTB and our clients. Include scope data where appropriate, e.g., budget and profit & loss accountability, level of organizational focus and impact, etc.
- Assists in designing and developing new applications using programming tools and languages, based upon the project requirements document and support as needed from their manager or more experienced staff.
- Assists in designing user interfaces for web-based applications based on an understanding of data use and client needs.
- Assists in providing user support for legacy applications and systems.
- Analyzes and solves basic technical problems with legacy applications and systems.
- Assists in documenting requirements from clients.
- Assists in developing programming specifications, logic flow charts, and process diagrams.
- Codes, tests, debugs, and refines programs under guidance from a manager or more experienced staff.
- Performs other duties as assigned.

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## PROJECTS

### PM Tools SANDAG

HNTB • <https://transnetpmtools.sandag.org/> • April 2023 - Present

- Project Manager for the development of the PMTools. It is a BMP application for the modern stack. Actively engaged with clients, understanding their needs, and ensuring effective communication throughout this project's lifecycle. Overseeing a team of 3 developers and coordinating efforts to achieve project milestones and deadlines using a ticketing system in DevOps.

## **ITS Asset Management Maint & Host**

HNTB • <https://www.mdot-asset.com/> • March 2023 – Present

- Backend API developer for MDOT AND. Integrated Swagger to provide comprehensive API documentation, streamlining collaboration with other developers and enabling easier testing and integration. Successfully led the migration of a critical API from .NET 3 to .NET 6 Core using C# as a backend software developer. Rebuilt and optimized the API with over 500 endpoints, improving performance by 30–40% and reducing response times. HNTB was selected to provide design, development, and long-term enhancements and support to MDOT's statewide ITS asset management system. The system has been collaboratively designed and developed in several phases and has been established as a crucial element of MDOT's ongoing asset management strategy. HNTB worked collaboratively with MDOT on a long-term system deployment strategy. A key element to success was the identification of an effective early-win strategy. When the statewide Intelligent Transportation Systems (ITS) office wanted a more sophisticated application to help manage its ITS, the first module extended a legacy tracking database to dynamically map the assets using Geospatial technology. This first phase was very successful and HNTB's work was authorized to continue with the development of additional modules and methods, including inventorying its assets, tracking work orders, monitoring the availability of spare inventory, scheduling program maintenance crews, and providing a sophisticated web-based application to provide decision support towards asset repair and replacement programming.

## **PIMA NYCDDC Coastal Resiliency**

HNTB • <https://pima.ddccr.com/> • May 2023 – Present

- Web developer for development of the PIMA 3.0 web platform. HNTB is currently serving as program manager and construction manager for New York City Department of Design and Construction (NYCDDC) and New York City Economic Development Corporation (NYCEDC) Coastal Resiliency Projects Citywide. The first task order, East Side Coastal Resiliency (ESCR), will raise a portion of East River Park and install above- and below-ground flood protection measures to strengthen 2.4 miles of urban coastline and protect lower Manhattan from rising sea levels and storm surges. The project will improve amenities and accessibility to East River Park, and several local parks and playgrounds. To be completed within an accelerated schedule, this project involves many challenges during construction, which we consider project highlights. The ESCR project, which is enhancing parks while creating a 2.4-mile-long flexible flood barrier extending from Montgomery Street on Manhattan's Lower East Side up to Asser Levy Playground at East 25th Street, has received an Envision Gold Award for sustainability from the Institute for Sustainable Infrastructure (ISI).

## **PIMA INDOT**

HNTB • <https://pima.indot.in.gov/> • February 2023 – Present

- Web developer for PIMA 2.6. HNTB is providing technical assistance and application development services to INDOT for public virtual involvement on planning and design projects. HNTB will advise and oversee all four contracts and assist INDOT in establishing policies, procedures and guidelines that will govern transportation planning studies. These studies will help improve safety, mobility and access along both corridors of US 30/31. Responsibilities include developing analytical methodologies and guidance documents for the PEL program, performing select technical analyses to provide to other consultants working on the program, leading and coordinating communications and public involvement efforts for the PEL program, developing and managing documentation for the PEL program and developing at least one PEL study.

## **PIMA SBCTA**

HNTB • <https://pima.sbctaoutreach.com/> • June 2023 – Present

- Web developer for development of the PIMA 2.5 web platform. The project consists of the development of the San Bernardino County Transportation Authority. Public Involvement Portal that displays projects and studies currently being developed, under construction, or recently constructed through an easy-to-use interactive map. Users can view basic project information and easily provide comments on current projects. Users can view the level of public support for the project, scheduled public meetings, other public comments received, as well our responses to those comments.

## **PIMA VTrans**

HNTB • <https://pima.vtransprojects.com/> • May 2023 – Present

- Web developer for development of the PIMA 2.5 web platform. The project consists of the development of Vermont Transportation. Public Involvement Portal that displays projects and studies currently being developed, under construction, or recently constructed through an easy-to-use interactive map. Users can view basic project information and easily provide comments on current projects. Users can view the level of public support for the project, scheduled public meetings, other public comments received, as well our responses to those comments.

## **PIMA LA DOTD**

HNTB • <https://pima.louisianadotd.com/> • April 2023 – Present

- Web developer for PIMA 2.5. HNTB is providing technical assistance and application development services to LA DOTD for public virtual involvement on planning and design projects. The project is the 10-yr update of the Louisiana Statewide Transportation Plan (LASTP) (2025–2055) and the travel demand mode. The project is broken into the Long-Range Transportation Plan (LRTP) + Modal Plans specific to freight, rail, aviation, transportation asset management, and the state's carbon reduction strategy (CRS), which was added to the original contract as Supplemental Agreement 1 in March 2023.

## **PIMA CDOT**

**HNTB** • <https://pima.coloradooutreach.com/> • April 2023 – Present

- Web developer for development of the PIMA 2.5 web platform. The project consists of the development of Colorado Department of Transportation. Public Involvement Portal that displays projects and studies currently being developed, under construction, or recently constructed through an easy-to-use interactive map. Users can view basic project information and easily provide comments on current projects. Users can view the level of public support for the project, scheduled public meetings, other public comments received, as well our responses to those comments.

### **PIMA Iowa DOT**

**HNTB** • <https://pima.iowadotpi.com/> • February 2023 – Present

- Web developer for the Public Involvement Portal that displays projects and studies currently being developed, under construction, or recently constructed through an easy-to-use interactive map. Users can view basic project information and easily provide comments on current projects. Users can view the level of public support for the project, scheduled public meetings, other public comments received, as well our responses to those comments. Avery also served as lead web developer implementing QR Codes throughout the site. Each link that opened up another module, has a downloadable QR Code next to it so the managers can share the meeting link. The website uses Angular, Esri REST endpoints, and AWS Cloudfront.

### **PIMA MaineDOT**

**HNTB** • <https://pima.mainedotpima.com/> • February 2023 – Present

- Web developer for the Public Involvement Portal that displays projects and studies currently being developed, under construction, or recently constructed through an easy-to-use interactive map. Users can view basic project information and easily provide comments on current projects. Users can view the level of public support for the project, scheduled public meetings, other public comments received, as well our responses to those comments.

### **ADORE TxDOT**

**HNTB** • <https://adoreplus.txadp.dev> • January 2020 – February 2023

- Full stack developer for support of the TxDOT Project Finance, Debt, and Strategic Contracts Division. She created a TxDOT system of record for all alternative delivery programs while being responsible for the end-to-end management, security, and functionality while leading the development of solutions for the division's Electronic Content Management (ECM) system. Development efforts included the tracking and reporting of strategic contracts management data, as well as the implementation of workflows and reporting in support of multiple design-build projects. She used programming languages such as C# and Blazor, with databases such as SQL Server. As a part of a team of three firms (HNTB, RS&H, and Ramos), HNTB provides pre-procurement and procurement activities for assigned projects and general support to the TxDOT Alternative Delivery Program. Although this contract was initiated in 2019, HNTB has consistently supported the TxDOT ADP since 2003 over multiple contracts, both as a prime and a sub-consultant. HNTB has played a leading role in the procurement and implementation of over \$10 billion in alternative delivery projects in Texas. HNTB services have varied over several different appointments. HNTB's duties included a broad range of professional engineering services necessary to support the planning, development, and implementation of statewide Alternate Delivery Projects, including but not limited to Comprehensive Development Agreements (CDAs), Public-Private Partnerships (PPP), Design-Build (DB) Agreements, Pass-Through Toll Finance Agreements, and other innovative financing partnerships.
- Assisting in the development of SharePoint and other cloud-based solutions for the Texas Department of Transportation's (TxDOT) Alternative Delivery Division. HNTB provides SharePoint administration and development services for the TxDOT strategic projects including Dallas Horseshoe, LP1604, US77, LBJ East, Oak Hill Parkway, SE Connector, I-35 NEX, I-2/I-69, I-35E Phase II, and other projects. She also assists in the design and development of custom Microsoft Azure-based solutions to meet the business needs of design/build projects.
- Reskinned and refactored the TxDOT system of record for all alternative delivery programs while being responsible for the end-to-end management, security, and functionality while leading the development of solutions for the division's Electronic Content Management (ECM) system. The project included Technology Services to support the planning, development, and implementation of statewide Alternative Delivery Projects. The technical services will support system upgrade software migration, customization, and continued project support related to the Alternative Delivery Program (ADP) Enterprise Content Management System (ECMS) environment and program database.

### **Feniex One Controller**

**Feniex Industries** • May 2018 – November 2019

- Responsible for creating an innovative controller so that first responders can be quicker and more efficient. She used Electron and React to build custom software inside Feniex's new controller. The software interprets JSON packets received from the OBD2 and the relay inside the vehicle, which controls global states based on the user's programmable input and implements functionality depending on the user.

### **Feniex Build-A-Bar Online**

**Feniex Industries** • <https://www.feniex.com/> • May 2018 – November 2019

- Primarily responsible for re-skinning Feniex's current website. She also developed a unique software application platform called Build-A-Bar. This web application was built using HTML/CSS for the front-end and JavaScript/Angular for the backend

### **Feniex E-commerce Website**

**Feniex Industries** • May 2018 – November 2019

- Using React Native, she repaired an abandoned application used on both the iOS and Android phone, then updated it to have the correct products and features for company and customer use.

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## EDUCATION

### Bachelor of Science in Computer Science

Minor in Information Technology • Sam Houston State University • Huntsville, TX • 2018

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## CERTIFICATIONS

### Microsoft Certified Azure Fundamentals

Microsoft • 2020

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## INVOLVEMENT

### Heptathlete

Sam Houston State University • SHSU Track And Field • August 2014 – May 2018

- Competed as a heptathlete, specializing in seven different track and field events, including 100m hurdles, high jump, shot put, 200m, long jump, javelin throw, and 800m.
- Demonstrated exceptional athleticism, endurance, and versatility in training and competition, showcasing the ability to excel across multiple disciplines.
- Collaborated closely with coaches and teammates to develop and execute training plans, optimize performance, and achieve personal and team goals.
- Honed time management and discipline skills, balancing rigorous training schedules with academic coursework to maintain high levels of athletic and academic performance.
- Represented Sam Houston State University with pride and sportsmanship at intercollegiate meets and competitions, contributing to the team's overall success and achievements.

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## SKILLS

Cloud Environments: AWS, Azure

Programming Languages: C#, ASP.NET, .NET Core 6, HTML5, JavaScript

Programming Libraries: jQuery, Angular, AngularJS, Bootstrap, Newtonsoft JSON

Databases: MS SQL, Oracle, Postgre

Programming Tools: Visual Studio, VS Code, SQL Server Management Studio, Notepad++, Azure DevOps, JIRA, Postman