Henry Zheng
Software Engineer

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Portfolio: www.henryzheng.me   **GitHub**: www.github.com/hnryzhng   **LinkedIn**: www.linkedin.com/in/hnryzhng

SKILLS

Front End
- HTML5, CSS3, JavaScript (ES6)
- React, Redux, D3.js, Bootstrap

Back End
- Node.js, Express.js
- Java, Spring Boot, Maven
- Flask
- RESTful APIs, JSON
- Jenkins

Python
- Python 2/3

- Pandas, NumPy

Cloud
- AWS Certified Solutions Architect – Associate
- EC2, Elastic Beanstalk, ELB, ASG
- VPC, Subnets, Security Groups, NAT Gateways
- RDS MySQL/PostgreSQL, DynamoDB, DocumentDB

Database
- NoSQL: MongoDB
- SQL: MySQL, PostgreSQL

Version Control
- Git, GitHub

PROFESSIONAL EXPERIENCE

- **Software Engineer**   Nov 2022 - Now
  Capital One

  ◦ Developed business critical debit transaction and fraud detection API services, with peak traffic of 7,000 queries per second, and max daily traffic volume hitting 2 million transactions.

  ◦ Provisioned and configured AWS compute clusters (EC2) and deployed serverless applications (Lambda, ECS Fargate) for team's debit and fraud detection microservices.

  ◦ Integrated encryption library to encrypt and decrypt debit transaction payloads.

  ◦ Rewrote API service for bank authorization credentials in migration from Java EC2 cluster to NodeJS AWS Lambda.

  ◦ Provided on-call technical production support for critical debit system errors and outages, handling severe incidents that impact hundreds to thousands of customers.

- **Software Engineer**   Aug 2021 – Nov 2022
  JPMorgan Chase & Co.

  ◦ Built custom functionality for the IT service management platform, ServiceNow, which caters to over 250,000 employees and stakeholders in the organization.

  ◦ Developed HTTP endpoints and REST mappings for internal API that serves service catalog data for consumption by JPMC's developers to build enterprise apps.

  ◦ Did platform integrations with firm's microservices and external service providers via team's API service.

  ◦ Work with clients and both technical and non-technical stakeholders from firm's investment banking and commercial banking divisions to shape specifications and implementation plans.

- **Freelance Software Development**   Nov 2019 – Aug 2021

  ◦ Engaged in full-stack web development for clients ranging from solo entrepreneurs to small and medium-sized enterprises.

  ◦ Created responsive single-page applications (SPA) and multi-page websites, in addition to integrating third-party APIs that include Stripe, PayPal, and Twilio.

  ◦ Responsible for client acquisition, troubleshooting, and billing.

- **Freelance Data Visualization Developer**   Dec 2018 – Aug 2021

  ◦ Built open-source data journalism visualizations using JS libraries D3.js and jQuery based on data from ProPublica, the New York Times, and the Washington Post.

- **Web Developer**   March – Oct 2016

  ◦ Sole developer for the now-defunct website Checklist China that offered how-to guides to the expat community in China.

  ◦ Customized WordPress website using PHP and basic HTML/CSS/JavaScript, while serving data from a MySQL database.

○ Set up site using Chinese web hosting service.

PERSONAL PROJECTS

- **Hospital Cost Map**   https://hospital-cost-map.onrender.com/
  Interactive map using federal Medicare and Medicaid data that allows users to find the costs of surgeries at nearby hospitals.

  ○ Created map using vanilla JavaScript, visualization library D3.js, and Google Maps API with sorted geolocation-based search of nearby hospitals with price comparisons for surgeries.

  ○ Wrote Python scripts to gather scrape, clean, and map nearly 200,000 records of healthcare data from federal government websites, including Centers for Medicare and Medicaid Services.

  ○ Optimized backend integration of healthcare data with third-party Google Maps API that cut initial API usage costs by 90%.

  ○ Tech: Google Maps JavaScript API, HTML5/CSS3, jQuery, AJAX, Bootstrap, D3.js, Node.js, Express.js

- **Shop-N-Pay**   https://shop-n-pay.onrender.com/
  Fully scalable e-commerce portal designed for selling clothing, complete with online payment integration.

  ○ Implemented state management library Redux to reduce complexity of React.js application, shaving 2 weeks off estimated project completion time that would have been lost to debugging and additional testing.

  ○ Integrated single-line credit card form from Stripe API into shopping checkout module, enhancing user experience by reducing UI clutter.

  ○ Optimized UI/UX to make app responsive to web and mobile devices by implementing standards consistent with progressive web apps (PWA).

  ○ Tech: React.js, Redux, Node.js, Stripe API

- **Phone Call Transcriber and Translator** (App | GitHub code)
  Transcribes and translates a live two-way phone conversation from English to Chinese Mandarin.

  ○ Built a RESTful API that is able to transcribe a two-way conversation in real-time using WebSockets and Twilio media stream handling.

  ○ Implemented asynchronous translation of live phone conversation from English to Chinese Mandarin using the Google Cloud API.

  ○ Tech: Java, Spring Boot, WebSockets, Twilio API, Google Cloud's Text-to-Speech API

- **Pay Your Way**   https://pay-your-way.onrender.com/
  Online payment portal integration that allows e-commerce businesses to pay using credit cards via Stripe.

  ○ Designed and implemented an intuitive UI that combines payment processing, address confirmation, and shopping cart into a unified, single-page experience.

  ○ Tech: JavaScript, React, Redux, Node.js, Stripe API

- **Analytics Dashboard UI**   https://hz-dashboard.onrender.com/
  UI dashboard that can render different types of charts for analytics.

  ○ Created a dynamic modular interface for visualizing data interactively using the open-source Chart.js library.

  ○ Implemented easy to use chart creations for users to quickly visualize complex data in common data formats such as JSON and Microsoft Excel format (.xls).

  ○ Tech: JavaScript, React, Chart.js

- **Mini-Fridge Cloud Storage**   https://mini-fridge-cloud.onrender.com/
  Online storage portal intended for small work-related files.

  ○ Improved user experience significantly by switching to near-instantaneous page loading using front-end routing instead of continuous client-server communication.

  ○ Implemented user authentication system with security features that include JSON web tokens (JWT) as well as password salting and hashing.

  ○ Tech: React.js, Node.js, Express.js, Bootstrap, MongoDB Atlas

- **Congress Affordable Healthcare Tracker**   https://congress-healthcare-2018.onrender.com/
  Single page app (SPA) that lists congressional members and their positions on universal healthcare.

  ○ Built tool to inform voters on whether their House representative supported the Affordable Healthcare Act during the midterm elections in November 2018.

  ○ Tech: HTML5/CSS3, D3.js, Bootstrap, Google Civic Information API

EDUCATION

- **University of Texas at Austin**   2008 - 2010

- B.A. in English Literature and Composition. Graduated with highest honors.
- **AWS Cloud Certification**: AWS Solutions Architect – Associate   July 2023
- **MOOCs**   2014 - Now
  - Udacity: Intro to Computer Science with Python, Object-Oriented Programming and Design, Intro to Data Analysis, Intro to Machine Learning by Georgia Tech
  - MIT OpenCourseware: Linear Algebra by Gilbert Strang, Single Variable Calculus