

NATHAN KARASCH

APPLICATION DEVELOPER

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PROFILE

Nathan is a well-rounded Application Developer with expertise in designing, developing, and testing software solutions to meet strategic business goals. His affinity for learning and mastering new technologies allows him to bring valuable insights to conceptual planning and discussions, enabling the team to choose the right tools needed to deliver high quality results. His effective written and verbal communication skills help keep development efforts aligned with customer expectations, ensuring the right solution is delivered the first time and reducing wasteful rework. As a consultant, he excels at identifying pain points in development processes and presenting thoughtful solutions to maximize efficiency and increase return on investment. His recent work focus has been in the application of data science and machine learning techniques to build intelligent systems.

EXPERTISE

- Identifying technical solutions to meet strategic business goals
- Communicating effectively and proactively to facilitate synergy and transparency
- Designing and implementing web-based applications, including user interface, REST API, ER database model, microservice architecture, third-party integrations, and security
- Delivering value in all software development phases, including requirements gathering, architecture, design, development, integration, testing, and deployment
- Researching and identifying the best technologies for use within a given project
- Effectively presenting technical topics to both technical and non-technical audiences
- Innovating internal tools to streamline development and increase productivity
- Aligning product development to business goals, technical requirements, and user satisfaction
- Training, evaluating, and deploying machine learning models to provide targeted insights
- Selecting and integrating various cloud services to create scalable project infrastructures

TECHNOLOGIES

- | | | |
|-------------------------|----------------------|----------------------------|
| • Java | • Spring framework | • Java concurrency |
| • MySQL | • Firebase | • Amazon S3 |
| • REST / SOAP / RPC | • Linux / Bash / Git | • Bash / Perl / Python / R |
| • JavaScript / Node.js | • Express.js / React | • ANTLR / Protocol Buffers |
| • Google Dart | • HTML / CSS / SCSS | • Php |
| • C / C++ | • Google 360 Suite | • Microsoft Azure |
| • Google Cloud Platform | • Microsoft Office | • Adobe Creative Cloud |
| • H2O Driverless AI | • Scikit-learn | • XGBoost |

CERTIFICATIONS

- Intro to Machine Learning (Udacity, 2018)
- Content Marketing ROI (Lynda.com, 2018)
- GCP Essentials (Qwiklabs, 2018)
- Google 360 Suite Overview (Lynda.com, 2018)
- Microsoft Office Specialist - Word 2010, Excel 2010 (Microsoft, 2013)



EXPERIENCE

Research Assistant | Iowa State University | Department of World Languages & Cultures

Two clients required unique, scalable solutions for aggregating and managing their research data. One solution moved the client's existing spreadsheet data management process into a relational database with a web interface. The other solution played audio samples for the research participants, collected survey responses, stored the survey data alongside correlated demographic information, and provided an administrative interface to upload audio or download survey results.

- Leveraged ISU's Drupal website infrastructure to provide an interface for data management
- Designed the database schema for both projects, creating custom rules to join tabular data along common keys to reduce duplication and increase data cohesiveness
- Architected and implemented a custom web application to serve as an audio-rating platform
- Adapted to client requests to migrate the solution to Amazon Mechanical Turk midway through the project
- Maintained open lines of communication with the clients to solicit feedback throughout the design and development process to ensure the solution was meeting the clients' goals

College Tech Spec Intern | Leidos, Eagan, MN | Automated Flight Service Station (AFSS) Project

The teams on the AFSS project were iteratively developing and releasing the next generation of functionality for the 1800wxbrief.com web platform. Nathan worked on both the frontend (JavaScript) and backend (Java, bash, perl) development efforts to deliver greater functionality on the Winds Aloft portion of the platform.

- Designed and implemented a dependency analysis tool that constructed a graph of script dependencies to facilitate runtime optimization
- Rewrote several existing scripts to decrease test runtime by multiple orders of magnitude (from several minutes down to a fraction of a second)
- Architected a major refactor to enable common code reuse
- Created a browser extension to facilitate more efficient development processes
- Given a classified clearance level to work on FAA projects
- Delivered status updates and live demos to 100+ stakeholders on a bi-weekly basis

Software Engineering Intern | Workiva, Ames, IA | Wdesk Spreadsheet Application

Nathan spent two summers developing the frontend (Google Dart) for the spreadsheet web application in the Wdesk platform. The first summer the product was still in research and development, and the second summer it was being used in production.

- Developed new features and fixed bugs in an agile (scrum/kanban) environment
- Headed a browser compatibility project, delivering key insights to the team for future development
- Wrote, tested, and reviewed code to deliver high quality results and customer satisfaction
- Designed and developed an innovative solution to bring a feature in alignment with industry standards
- Worked with the Atlassian software suite (Jira, Bamboo, etc.)

EDUCATION

Iowa State University

Ames, IA

Bachelor of Science: Software Engineering

Summa Cum Laude

