

# Alex M. Borchers

**Software Developer | Full-Stack Engineer**

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## Education

**Master of Science: Computer Science | University of Nebraska – Omaha**

*May 2023*

- *Summa Cum Laude, GPA: 4.0*
- Specialized Emphasis in Software Engineering

**Bachelor of Arts: Mathematics | Bachelor of Science: Business Administration | Morningside University**

*May 2024*

- *Summa Cum Laude, GPA: 3.90*
- Minor in Computer Science
- Emphasis in Finance

## Technical Skills

### **Core Technologies:**

- Frontend: React, JavaScript, HTML5, CSS, Bootstrap
- Backend: Node (Express), Python, PHP
- Databases: MySQL, SQL Server, Firebase
- AI: Cursor, Replit, V0, ChatGPT, Claude
- Other experience in: Angular, PHP, Java, C++, VBA, Overleaf

### **Tools & Platforms:**

- Agile Methodologies
- API Integration (Google Suite, Claude, ChatGPT, Avalara, MondayDev, USPS, Viewpoint)
- Version Control (GitHub)
- Microsoft Excel & Access

## Professional Experience

**Senior Software Developer | Pierson Wireless, Omaha, NE**

*June 2023-Present*

- Lead developer responsible for architecture planning, new feature development, testing, integration, and maintenance of our project estimating, workflow management & logistics software.
- Modernized legacy PHP codebase by migrating to React.js and Node.js
- Full data migration from MySQL to SQL Server to enhance database reliability & scalability
- Implemented robust data integrity measures using foreign keys and unique indexes
- Collaborate in agile sprint environment, translating stakeholder requirements into actionable development tasks

**Business Analyst | Pierson Wireless, Omaha, NE**

*June 2020-June 2023*

- Converted excel financial summary tool to an online platform currently used widely by the company.
- Developed data-driven automation tools to increase departmental efficiency
- Analyzed quote data to calculate win rates across multiple business factors
- Maintained critical workflow management software

## **Research Experience**

### **Thesis Equivalent Master Project | Dr. Harvey Siy, University of Nebraska - Omaha**

*August 2022-May 2023*

- Conducted research to explore metamorphic, mutation, and differential testing for enhancing machine learning (ML) model robustness, specifically using Support Vector Machines (SVM) for image classification.
- Developed a no-code application for users to interactively train, test, and mutate ML models. It includes options to select metamorphic transformations, tune hyperparameters, and analyze post-training impacts using a ChatGPT API for hyperparameter mutation.
- Tests were conducted using image bitmaps, validated metamorphic relations, and GridSearchCV for hyperparameter optimization.
- Future research ideas are provided to test other ML algorithms (e.g., CNNs) and develop methods for analyzing complex hyperparameter sets, with a focus on scaling applications and improving test data coverage.

### **Research Assistant | Dr. Chris Spicer, Morningside University**

*January 2017-May 2018*

- Recruited by a faculty member to assist with research, based upon strong academic performance, and leadership characteristics. Provided research on 2 topics.
- Performed research on continued fractions focused on finding trends in data to categorize sets of numbers using algorithms.
- Performed research on graph theory using the game “cops and robbers”. Analyzed research from previous students, developed & provided theorems for new sets of graphs.
- Presented to peers and faculty at the Palmer Research Symposium, Spring 2018.

## **Highlights & Achievements**

- 5-year Collegiate Athlete with Academic All-Conference and All-American Honorable Mention Honors
- Summa Cum Laude in both Undergraduate and Graduate Studies
- Diverse Internship Experience: Avalon Capital Group, Northwestern Mutual, State Farm

## **Leadership & Community Involvement**

- 3-Year Basketball Team Captain at Morningside
- Volunteer Work: Dream Center Mission Trip, Night to Shine, Community Service Projects
- Basketball Skills Trainer for Youth Athletes