# Chris Harman

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## Work Experience

**ZAIS Group**                                                                                 Remote
*Senior Software Engineer – Data Analytics*                                     *Jul 2022 – Present*
  – Spearheaded creation of Airflow data pipeline that created visibility into $4.6B in loan assets
  – Calculated business analytics and constraints to drive asset rankings and assess compliance
  – Created natural language interfaces to Azure, Excel, and MSSQL using OpenAI's API
  – Technologies: Python, Airflow, Azure, AWS, Pandas, Docker, MSSQL, ChatGPT, Streamlit, Gradio

**Medtronic**                                                                               Fridley, MN
*Senior Software Engineer – Neuromodulation*                                   *Jan 2015 – Jun 2022*
  – Led software development of deep brain stimulation therapy delivery
  – Collaborated with diverse stakeholders to achieve broad project goals
  – Authored department coding standards to improve patient safety and enhance code clarity
  – Coordinated improvements in best practices for code reviews, TDD, static analysis, and CI
  – Helped drive department adoption of new technologies to mitigate common errors (Kotlin, SonarQube)
  – Coached developers on Kotlin in small group sessions
  – Technologies: Java, Kotlin, Android, JUnit, Groovy, MySQL, Git, Gradle, SonarQube

## Projects

**CLO Model – Software Consultant**                                                      ZAIS Group
  – Ported model to the cloud and parallelized it, leading to a 250x speed increase

**Activa and Percept – Deep Brain Stimulation Team**                                      Medtronic
  – Developed the software system for controlling deep brain stimulation therapy
  – Designed and implemented key concepts of the overall application architecture
  – Led teams of developers onsite and offshore to achieve project goals
  – Wrote a standalone dependency injection system to eliminate SOUP concerns
  – Collaborated with end users (neurologists/nurses) on UI design

**Prototype Project – Deep Brain Stimulation Team**                                      Medtronic
  – Prototyped concept that could save the company $50M+

**Symptom Tracker – Digital Health Team**                                                Medtronic
  – Created REST endpoints to support mobile data syncing, trialing protocol setup
  – Created core symptom-tracking and multidirectional mobile data syncing functionality
  – Coordinated the efforts of onshore developers with an offshore test team
  – Demonstrated viability of Kotlin for the Neuromodulation department

**Internship Projects**                                                                    Edmentum
  – Created a web-based collaboration platform with whiteboard, document sharing, and chat
  – Built a physics-modeling web client to allow students to track moving objects

**Personal Projects**
  – Tesla analytics, NFL game tracking, hyperlocal weather

## Education

**University of Minnesota – College of Science and Engineering**                     Minneapolis, MN
*B.S. in Computer Science – Software and Data Systems Development*              *Aug 2012 – Dec 2014*

**Bethany Lutheran College**                                                          Mankato, MN
*B.A. in Physical Sciences*                                                    *Aug 2009 – Dec 2014*

## Technologies

Python, Kotlin, Java, Azure, AWS, Spring, Android, Pandas, Airflow, SQL, JUnit