

# NICOLAS E. SHANNON

Red Wing, MN

(651)-354-9299 • nickesg44@gmail.com • <https://github.com/nshan651>

## EDUCATION

**Loyola University Chicago** • Chicago, IL  
*B.S. Computer Science* • GPA: 3.87

August 2019 – May 2023

## EXPERIENCE

**Leidos** – Software Engineer  
Eagan, MN

August 2023 – Present

- Worked on the UI/UX team responsible for the Radar Display, Data Display, and Air Traffic Specialist Displays used by air traffic controllers.
- Explored memory and performance optimizations using profiling tools such as Valgrind.
- Navigated the software release life cycle, working through high-level design, implementation, extensive string, unit, and integration testing, code review, and timely delivery.

**Loyola Software and Systems Lab** – Researcher  
Chicago, IL

June 2022 – May 2023

- Developed [Sparkbadge](#), a tool to easily create sparkline status badges for code repositories that show longitudinal metrics at a glance.
- Implemented longitudinal metrics project code quality, activity, and CI/CD pipelines.
- Added embedded image support to [Google Pybadges](#); utilized the new feature to create badges using sparkline images.

**Deep Learning REU at UNT** – Researcher  
Denton, TX

May 2021 – March 2022

- Characterized and predicted the behaviors of different polluting gases in cities throughout the U.S. using a [deep autoencoder neural network](#).
- Compared the effectiveness in dimensionality reduction with Principle Component Analysis.
- Composed a framework to retrieve and process pollution data.

**Quantitative Analysis Club** – Project Lead  
Chicago, IL

March 2021 – December 2021

- Led a team of students in creating [quantitative algorithmic trading strategies](#).
- Implemented technical analysis strategy using Alpaca API and Yahoo Finance Data.
- Built an [automated stock report generator](#) for the Rambler Investment Fund.

**Rambler Investment Fund (RIF)** – Junior Analyst  
Chicago, IL

August 2020 – December 2020

- Pitched an investment opportunity to the fund board members and industry professionals.
- Created a macro report, investment report, and investment pitch deck after extensive research and fundamental analysis.

## PROJECTS

### [Excite](#)

January 2022

*Terminal-based citation generator*

- Allows one to search for a citation by specifying either the title of the work or an identifier code (ISBN, DOI) and a citation type (MLA, APA, BibTex).
- Selected citation is copied to the clipboard and/or saved to a bibliography file.
- Preparing releases on several major package managers, including on Ubuntu's APT, Arch's AUR, and the Homebrew package manager for MacOS.

### [Automated-Fundamentals](#)

April 2021

*Automated fundamental stock data with Slack integration*

- Created an automated stock report that generates a market profile, price chart, financial data visualizations, and the top five recent news stories associated to a given stock.
- Integrated functionality with Slack client.

### [TA-Trader](#)

February 2021

*Algorithmic trader that uses technical indicators to buy and sell securities*

- Used the Moving Average Convergence Divergence (MACD) to analyze recent price changes of securities.
- Automated a trading strategy that retrieves data from yfinance, calculates the MACD, and buys and sells securities in my portfolio.

## SKILLS SUMMARY

- **Programming Languages:** C/C++, Python, Java, Lua, Scala, Assembly.
- **Technical Languages:** SQL, CSS, HTML, LaTeX, Bash/Shell Scripting, R Markdown.
- **Command-Line:** git, docker/podman, make/cmake, ssh, curl, sed, grep, awk, jq, pandoc.
- **Tools:** GNU/Linux, QEMU, MS Excel & Access, PostgreSQL, Tableau, Vim, Emacs, Tmux, Jira, Confluence.
- **Libraries & Frameworks:** Numpy, Pandas, Matplotlib, Requests, Keras, Tensorflow, Flask, Java.Collections.
- **Testing Frameworks:** Boost, JUnit, ScalaTest, Nox, Lua-busted.
- **Crypto:** GNUPG, OpenSSL.
- **CI/CD Services:** GitHub Actions.