

Megan R. Kongable

megan.kongable@gmail.com | (319) 777-2066 | www.linkedin.com/in/mkongable/ | <https://github.com/mkongable>

EDUCATION

MS Plastics Engineering, Graduate Computer Science Certificate – UMass Lowell **GPA: 3.7/4.0** **May 2024**
Relevant Courses: Cloud Computing, Virtual Systems, Operating Systems, Applications at Scale

BS Mechanical Engineering – North Dakota State University **GPA: 3.7/4.0** **May 2022**
Relevant Courses: Programming Fundamentals, Logic Practicum, Circuit Design, Linear Algebra, Data Modeling

ACADEMIC PROJECTS

Next Pick – A Group-Friendly Discord Bot for Movie Picking **Fall 2022**

- Discord bot enabling groups of users to add movies to watchlists and pick movies in a round-robin fashion
- Bot is built using Python, Discord's API, Movie Database's API, and MongoDB, ensuring persistent data storage
- Discord bot is hosted on the cloud (AWS EC2), allowing for continuous availability and secure computing
- Led AGILE/Kanban project management with GitHub Projects and Actions, documenting all tasks/issues

Computer Vision Assisted Job Application Bot **Fall 2022**

- Created a Python bot for applying to jobs on LinkedIn, enabling thousands of job applications to be automated
- Utilized natural language processing, image processing (OpenCV, Tesseract), and mouse/keyboard automation to emulate human actions. The bot also utilizes media capture APIs and error logging to document tasks it cannot perform
- Bot uses Google's text-to-speech machine learning engine to provide audio cues for necessary human intervention

NASA Human Exploration Rover Challenge **Fall 2021-Spring 2022**

- Designed and prototyped a fully functional human-powered mars rover with a team of NASA engineers
- Successfully tested rover prototype in simulated mars-like conditions, meeting all stakeholder requirements
- Led the project management component, utilizing the AGILE methodology to ensure consistent deliverables
- Utilized ANSYS and Python for data analysis, ensuring that the rover met all design specifications within a certain tolerance
- Created detailed documentation (PowerPoint, Word) for the entire design process, showcasing team accountability and engineering achievements; presented all findings and documentations to NASA engineers and received positive feedback
- Led the outreach component, reaching over a thousand interest middle schoolers and NASA employees

Practical Ovens - An Inclusive Oven for the Impaired **Fall 2022**

- Developed driver code for a specialized oven simulator using OOP design patterns
- Oven maintains all standard functionalities of a typical oven while also providing the ability to automatically shut down

GradeGUI – A Java Grade Calculator GUI **Summer 2022**

- JavaFX GUI with HTML/CSS styling which allows users to calculate GPA from class and assignment inputs
- Supports a persistent class database using the Excel API for Java, validated through extensive unit testing

GamePigeon Solvers **Spring 2022**

- Java application which can beat any typical Anagram or Mancala game, used to ensure a 99.9% win rate against humans
- Mancala engine implements an optimized Recursive Pathfinder algorithm to compute the optimal move sequence
- Object-Oriented design, enabling separate architectures for the file reader, dictionary, and algorithm driver

HackerRank/Leetcode (Ranked Top 1% in Problem Solving Nationally) **Fall 2021-Present**

- Solved over 500 problems (Java, C++, Python), focusing on algorithms, data structures, system design, and DB management

EXPERIENCE

Mechanical Engineering Intern at Crystal Group, Inc. **Summer 2021-Fall 2021**

- Constructed prototype test computers; gathered and validated thermodynamic characteristics. Gained hands-on experience with heat transfer mechanisms, as well as hardware chassis design optimization
- Used Excel/VBA to manipulate numerical test data into a more readable format and perform scientific computations
- Authored white-paper documentation assessing physical characteristics of hardware IP
- Informed company executives of relevant action plans and oversaw execution, driving technology upgrades

LEADERSHIP AND ACTIVITIES

Outreach Lead - Society of Women Engineers (SWE)

- Volunteered with the NDSU chapter of SWE to teach hundreds of 3rd-5th graders engineering concepts

SKILLS

Creo 4.0, Fusion 360, AutoDesk, MS Office, MATLAB, Java, Python, C, C++, Git, VBA, Linux, Power Apps, Power BI, Object Oriented Design, Software Architecture, JUnit, PyTest, HTML, CSS, JavaScript, Design Patterns, AGILE, Scrum, Kanban, Scripting, Azure DevOps, CI/CD, Pandas, Embedded Systems, UI/UX design, Full-Stack Development, MURAL, Cloud Computing, SQL, MongoDB, REST APIs, ANSYS, Software Testing, AWS, CAD, Robotics, Image Processing, NLP, OpenCV, Machine Learning