

(847) 287-6910
Morton Grove, IL
mercedes.sandu@u.northwestern.edu

Mercedes Sandu

Software Engineer

Portfolio: mercedessandu.com
github.com/mercedes-sandu
linkedin.com/in/mercedes-sandu

Creative and motivated software, web, and game developer seeking to apply knowledge from startup experience toward a dynamic and detail-oriented full-stack position.

EDUCATION

| | |
|---|----------------------------|
| Master of Science , <i>Northwestern University</i> <i>Computer Science, Thesis Track</i> | March 2022 — June 2024 |
| Bachelor of Arts , <i>Northwestern University</i> <i>Mathematics and Computer Science Double Major, Chemistry Minor, GPA 3.86</i> | September 2020 — June 2024 |
| High School Diploma <i>Niles North High School</i> <i>GPA 4.75</i> | August 2016 — May 2020 |

SKILLS

| | |
|------------------------------|---|
| Tools and Languages | C#, Unity, Java, Python, HTML, CSS, TypeScript, React, Figma, \LaTeX , Blender, Git, Discord API, Jira |
| Quantitative Research | Proof Writing, Discrete Geometry, Artificial Intelligence, Logic, Mathematica, MatLab |
| Communication | English, Romanian, Spanish |

TECHNICAL EXPERIENCE

| | |
|---|--|
| FRONTEND DEVELOPMENT IT INTERN / KNOWme <i>Abbott</i> | June 2023 — Present <i>Chicago, Illinois</i> |
|---|--|

- Designed and implemented components for React webapp using TypeScript, HTML, and CSS
- Updated webapp components to be accessible with AA-standard colors, tabbed navigation focus states, and accessibility labels
- Completed tasks in an agile sprint-based workflow
- Redesigned and implemented PowerBI dashboards and PowerApps using Figma for intern showcase project

| | |
|--|--|
| SOFTWARE ENGINEER / INTERVALLIC, SONGLYBOT <i>Overture Games</i> | June 2022 — Present <i>Chicago, Illinois</i> |
|--|--|

- Engineered and implemented primary game mechanics, including player movement, level progression, and accuracy detection using Unity and C#
- Delegated relevant tasks to team members with differentiated experience and roles
- Developed systems for Midi instrument, computer keyboard, and touchscreen input
- Built data structures to represent musical concepts such as key signatures, intervals, chromatic movement, and scales
- Conceptualized and programmed visual aesthetic and design for UI/UX and frontend development of Intervalllic game

| | |
|---|--|
| GRADUATE RESEARCHER / ARTIFICIAL INTELLIGENCE & NARRATIVE RESEARCH <i>Northwestern University Computer Science Department</i> | March 2022 — Present <i>Evanston, Illinois</i> |
|---|--|

- Studied and documented the uses of propositional and formal logic in generative software and game artificial intelligence
- Analyzed Dr. Ian Horswill's experimental generative language, Imaginarium, with the intent to expand its logical implications
- Experimented with Imaginarium project and extended Imaginarium codebase to discover its technical and logical shortcomings and planned improvements
- Designed, implemented, and tested a constraint-based SAT solver for constraints imposed on randomly generated graphs

| | |
|---|--|
| UNDERGRADUATE RESEARCHER / DISCRETE GEOMETRY RESEARCH <i>Northwestern University Mathematics Department</i> | January 2021 — June 2023 <i>Evanston, Illinois</i> |
|---|--|

- Studied the previous work of Dr. Shuyi Weng and Dr. Laura DeMarco on the folding of two-dimensional polygons into three-dimensional shapes
- Conducted case studies on different shapes and used findings and implemented code to write formal proofs
- Wrote a formal mathematics academic paper discussing main findings of research on polygons and three-dimensional shapes and published in *Involve Journal*
- Presented research findings to hundreds of educated enthusiasts

AWARDS, PRESENTATIONS, & PUBLICATIONS

| | |
|---|--------------|
| <i>Closed cap condition under the cap construction algorithm</i> , <i>Involve Journal</i> | June 2023 |
| Joint Mathematics Meetings Undergraduate Oral Presentation | January 2023 |
| Financial Award for The Garage Jumpstart Competition Finalist | August 2022 |
| Summer Undergraduate Research Grant | Summer 2022 |
| Undergraduate Research Exposition and Northwestern Undergraduate Mathematical Society Presentations | May 2021 |