

Karl Toby Rosenberg
347-598-7068
karltobyrosenberg@nyu.edu
<https://github.com/KTRosenberg>

EDUCATION:

New York University, New York, NY

Undergraduate - Computer Science Major, German Minor

graduating 5/2017

ACM Member, Undergraduate Humanities Fellow, Dean's List

GPA: 3.96

Relevant Courses:

Data Structures, Computer Systems Organization, Basic Algorithms, Operating Systems,
Object-Oriented Programming, Large-Scale Web Applications (back-end development),
Multi-core Programming, Computer Graphics, Natural Language Processing

EXPERIENCE:

1/2017-5/2017: **Guggenheim Museum Software Engineering Research Intern**, New York, NY

- Research and programming to conserve and re-exhibit software artwork
- Tasks involve language translation and reverse-engineering of pieces, writing a formal recommendation

Course Tutor, New York University Courant Institute of Mathematical Sciences

- 9/2016-12/2016: **Introduction to Programming in Python Tutor**
 - Fulfilled role as in-class tutor and assistant for two professors, held additional private sessions
 - Addressed students' questions and concerns, sent feedback to professors
- 6/2016-8/2016: **Data Structures Tutor**
 - Clarified and reinforced concepts in data structures, algorithms, problem-solving, and debugging
 - Adapted teaching methods to students' thought processes and skill levels
 - Provided professor with student feedback on classwork and material

CODING PROJECTS:

9/2016-12/2016: **Java to C++ Translator**, *Object-Oriented Programming Semester-Long Team Project:*

- Parses Java code and generates source code for a runnable C++ program
- Implements inheritance and overloading with custom-built virtual tables and symbol tables
- *Techniques:* peer-programming, test-driven development, Bash test scripting
- *Responsibilities:* program design, whiteboard drafting, planning, and presentation

6/2016-present: **Text Analyzer / Step-through Viewer**, *written in Python:*

- Utility to navigate an input text and examine the usage, repetition, and proximity of words
- Viewer can jump forwards and backwards by line or between instances of particular words
- Interests in digital humanities, NLP, and applications for education are motivation for this project

6/2016-present: **Hash-table**, *implemented in C:*

- Separate-chaining via linked-lists, automatic resizing, user-provided hash function support
- Includes tests for table population and deletion, functions, and memory management

PROGRAMMING LANGUAGES AND SOFTWARE:

Languages:

Java, Python, C, C++, (familiarity with x86-64)

Environments, Debuggers, Version Control:

Terminal / Shell (Bash), Linux (*buntu), OS X, Eclipse, IntelliJ, CLion, GDB, Git

Other Software:

Steinberg Cubase, Adobe Photoshop and Illustrator, Protocol Buffers (GRPC)

OTHER PROJECTS AND INTERESTS:

- *Music:* composition and production of original works, MIDI and audio editing
 - <https://soundcloud.com/synchronizerman>
- *Language:* 7 semesters German language, translation
- *Writing:* collaboratively and independently, 11 courses in analytical writing (philosophy, literature, film)
- *Artwork and Drawings:* pencil, charcoal, ink, computer-aided, logos, game maps