Karl Toby Rosenberg

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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: **Solomon R. 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