

Ronald J. Mintz

4030 75th Street, Apt. 5M, Elmhurst (Queens), New York 11373
(718) 507-8980 • ron_mintz@post.harvard.edu

SUMMARY

Seeking Software Research and Development position requiring strong analytical skills. Have written well-structured, easily understandable, and highly reliable code. Proficient in computer science, algorithm development, data structures, real-time programming, object-oriented programming, scientific programming, computational software development, mathematical modeling, and clinical software development.

LANGUAGES C, C++ with Standard Template Library (STL), Java, MATLAB, Python, SQL, HTML, JavaScript, Keras, Fortran, Assembly Language

SYSTEMS Unix, Linux, Windows, Macintosh OS X

EXPERIENCE

UNIVERSITY OF VIRGINIA, Biocomplexity Institute, Charlottesville, VA (remote) (2018 – present)

- The project below at Virginia Tech was transferred to University of Virginia.
- Wrote code for neural network to simulate interaction with Twitter. Used LENS neural network simulator.
- Converted neural network program from LENS with **C** interface to **Keras** with **Python** interface.

VIRGINIA TECH, Biocomplexity Institute, Arlington, VA (remote) (2017 - 2018)

- Research Associate. Developed **Python** and **C** programs for neural networks to implement machine learning. Used LENS neural network simulator. Created network of interacting agents to model social communication.
- Wrote **Python** code for simulation and analysis of interaction of users with GitHub repositories and to create training examples for neural network. Developed interface from **Python** program to **C** program which calls LENS. Used **SQLite** database for retrieval of data to be analyzed.

SUNY DOWNSTATE MEDICAL CENTER (Department of Ophthalmology), Brooklyn, NY (2015-2017)

- Programmer Analyst. Developed object-oriented **MATLAB** programs to conduct visual experiments for ophthalmic research and to analyze the subjects' eye movement and manual response datasets from the experiment. Collaborated with research scientists.
- Developed algorithm to compute the apparent magnitude of a star whose apparent brightness is equal to that of a lighted dot on computer screen. Results of this algorithm are used for an experiment to simulate the visibility of the star over a range of visual angles.
- Used Subversion repository to store programs for version control and availability to the group.

COMPUTATIONAL HEALTH BEHAVIOR DYNAMICS LAB (2013 – 2015)

- Collaborated with former supervisor from Columbia Dr. Mark Orr on a volunteer basis in the development of mathematical models of social diffusion dynamics of health behavior.
- Wrote **C++** program using Visual Studio to compute effects of intercohort diffusion using Markov Cohort Analysis.

COLUMBIA UNIVERSITY (Department of Epidemiology, Mailman School of Public Health), New York, NY (2011-2013)

- Java Developer/Programmer. Collaborated in the development of **Java** simulation program for computational modeling and simulation of dynamic systems.
- Developed new functionality for dynamic agent-based model to observe how the health behavior of each individual determines the population health outcomes. Programmed numeric and probabilistic calculations.
- Wrote Unix Shell Scripts for sequential execution and for parallel processing of multiple simulations for simultaneous execution.
- Wrote code for computational analysis of the effects of monetary and educational interventions upon community health.

Omnisoft/Keane at PUBLIC SERVICE ELECTRIC AND GAS COMPANY, Newark, NJ (2008-2009)

- Consultant. Planned conversion to **C / C++** and Oracle of statistical software originally coded in Fortran and Vax/Vms **SQL**. Wrote documentation for this software and the planned conversion process. Translated Fortran programs to **C** with the aid of Promula Fortran tool. Trained team member in the structure of this software.

Studies at NEW YORK UNIVERSITY (see PROFESSIONAL DEVELOPMENT section) (2006-2007 and 2009)

NEW YORK-PRESBYTERIAN HOSPITAL (through FIRST CONSULTING GROUP) (1998-2005)

- Designed and implemented medical informatics programs to support users of Electronic Medical Records maintained by Eclipsys clinical system. Enhanced the Computerized Physician Order Entry system with these clinical alert programs. Wrote programs in **C** with RDB (relational database) in Unix environment.
- Determined how to use the functionality of Eclipsys development environment for which no customer documentation was available. Developed programming methodologies for alert modules and encapsulated them in user-friendly **C** functions. These functions were a significant aid to team members developing other alerts for this project.
- Developed computational programs for dose calculation, maximum dose checking, and calculation of creatinine clearance from serum creatinine laboratory test results.
- Was assigned and successfully solved the most difficult and complex problems because of my deep understanding of the system.

POPKIN SOFTWARE AND SYSTEMS (now Unicom Systems), New York, NY (1994-1998)

- Developed, enhanced, and debugged portions of System Architect modeling tool using **C**, **Visual C++**, and Windows API. Solved software problems considered to be extremely difficult by technical managers and senior coworkers.
- Enhanced and maintained Reverse Data Engineer to parse **SQL** files for Sybase, Oracle, Microsoft SQL Server, Informix, and DB2 database systems. Created data modeling diagrams in System Architect for visualization of data interrelationships from these **SQL** files.

MTF LIMITED, New York, NY (1993)

- Designed quantitative trading algorithms using statistical analysis and implemented them in **C** programs. Developed **C** functions for plotting of historical market data with graphical display of the trading decisions and their results.

ADDITIONAL EXPERIENCE

- Developed complex data analysis programs and implemented numerical and statistical algorithms for computation of medical laboratory test results. Used linear and non-linear regression methods. These programs were written and documented in a well-structured, easily readable style and proved to be highly error-free. Collaborated with clinical chemists and system engineers. (Bayer Diagnostics)
- Designed detailed algorithms for optimization phase of compiler. Utilized the hierarchical tree structure of classically structured programs in the data flow analysis underlying the global optimization. This general technique, based on contemporary research, employed a uniform flow analysis in which analytical formulas are used to derive the data flow information. (Honeywell, formerly Incoterm Corp.)

EDUCATION

HARVARD UNIVERSITY, Cambridge, Massachusetts

Ph.D., Applied Mathematics with Computer Science major

M.S., Applied Mathematics

Thesis: Applied stochastic decision method to Markov model of file management process for analysis of information retrieval performance.

Teaching fellow: Led class discussions in mathematical modeling course. Advised and assisted students on projects requiring mathematical modeling in any field.

YESHIVA UNIVERSITY, New York, New York

B.A., Mathematics. Received Professor Jekuthiel Ginsburg Memorial Award for Excellence in Mathematics.

BRONX HIGH SCHOOL OF SCIENCE, Bronx, New York

PROFESSIONAL DEVELOPMENT

Columbia University, Epidemiology and Population Health Summer Institute, **Machine Learning using R** (2014).

New York University, **Java Programming** (2009). Includes multithreaded programming, concurrency and synchronization, sockets, TCP/IP, graphical user interface implementation, and Junit for automated testing.

New York University, **C++ Programming Part II and Part III** (2006 - 2007). Includes templates and Standard Template Library (STL).

Baruch College, **C++ and Windows Programming** (1992).

Received grade of A in all C++ and Java classes.

PUBLICATIONS

- (1) [Robert Alexander](#); [Ronald Mintz](#); [Paul Custodio](#); [Stephen Macknik](#); [Sofya Gindina](#); [Susana Martinez-Conde](#). Gaze behavior during the averted detection of a simulated faint star, abstract published in Journal of Vision, August 2017, Vol.17 (10), 1186.

<http://jov.arvojournals.org/article.aspx?articleid=2652054>

- (2) Michael I. Oppenheim, Ronald J. Mintz, Aurelia G. Boyer, William W. Frayer. Design of A Clinical Alert System to Facilitate Development, Testing, Maintenance, and User-Specific Notification. Proceedings of the 2000 AMIA Symposium: pages 630–634. American Medical Informatics Association (AMIA).

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2243965/>

- (3) Ronald J. Mintz, Gerald A. Fisher Jr., and Micha Sharir. The design of a global optimizer. Proceedings of the 1979 SIGPLAN symposium on compiler construction: pages 226 – 234. Association for Computing Machinery (ACM).

<http://doi.acm.org/10.1145/800229.806974>

- (4) Ronald J. Mintz. Application of a Stochastic Method to the Problem of Optimal File Maintenance (abstract). Proceedings of the 1977 ACM Computer Science Conference: page 26, bottom row, right column. Association for Computing Machinery (ACM).

<http://doi.acm.org/10.1145/800008.808038> (my abstract is included in the full text)

- (5) David Kahn and Ronald Mintz. Freeway Traffic Flow Following a Lane Blockage. Technical report number DOT-TSC-FHWA-73-1, 1973. Transportation Systems Center, U.S. Department of Transportation, Cambridge, Massachusetts.

<http://www.worldcat.org/title/freeway-traffic-flow-following-a-lane-blockage/oclc/12105393/editions?referer=di&editionsView=true>

- (6) David Kahn and Ronald Mintz. Some Considerations on the Problem of Non-Steady State Traffic Flow Optimization. Technical report number DOT-TSC-FHWA-73-12, 1973. Transportation Systems Center, U.S. Department of Transportation, Cambridge, Massachusetts.

<http://www.worldcat.org/title/some-considerations-on-the-problem-of-non-steady-state-traffic-flow-optimization/oclc/47212606/editions?referer=di&editionsView=true>