

Paul S. Blaer

Address:

Computer Science Department
Columbia University
1214 Amsterdam Avenue, M.C. 0401
New York, NY 10027
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Education:

Graduate School of Arts and Sciences,
Columbia University
Ph.D. in Computer Science received October 2008

Graduate School of Arts and Sciences,
Columbia University
M.Phil. in Computer Science received May 2004

Fu Foundation School of Engineering and Applied Science,
Columbia University
M.S. in Computer Science received May 2002

Columbia College, Columbia University
B.A. received May 2000
Major in Computer Science
Concentration in Mathematics

Honors at Columbia:

I.I. Rabi Research Scholar (1996 - 2000)
Dean's List (seven semesters)
School of Engineering and Applied Science Outstanding Teaching
Assistant Award (Fall 2000, Spring 2001, Fall 2002, and
Fall 2003)
The Andrew P. Kosoresow Memorial Award for Excellence in Teaching
and Service (2004)
Ph.D. Service Award (2006)

Columbia Engineering Alumni Association Distinguished Faculty
Teaching Award (2018)

Professional Memberships:

Institute for Electrical and Electronic Engineers

- Computer Society
- Robotics and Automation Society

Association for Computing Machinery

- SIGCSE

USENIX

Professional Experience:

July 2018 through the present:

Computer Science Department, Columbia University.
Senior Lecturer in Discipline

July 2015 through June 2018:

Computer Science Department, Columbia University.
Lecturer in Discipline

July 2015 through the present:

Computer Science Department, Columbia University.
Director (part-time), Computing Research Facilities

September 2014 through June 2015:

Computer Science Department, Columbia University.
Director, Computing Research Facilities

September 2008 through June 2015:

Computer Science Department, Columbia University.
Adjunct Assistant Professor

July 2008 through September 2014:

Computer Science Department, Columbia University.
Assistant Director, Computing Research Facilities

Research Experience:

Summer 1998 through June 2008:

Robotics Group, Columbia University.
Research Assistant.

Summer 1997:

Faculty Cluster for Instructional Technologies,
Columbia University.
Technology Assistant.

Summer 1996:

Primate Cognition Laboratory, Columbia University.
Research Assistant.

Summer 1995:

Astronomy Department, Columbia University.
Research Assistant.

Funding:

co-PI Northeastern University Center for Inclusive Computing,
"Advancing Women in Computing at Columbia and Barnard," (with PI
Julia Hirschberg and Rebecca Wright, Barnard and with co-PI Adam
Cannon), 12/1/2020–12/31/2021.

Recipient from Common Mission Project of a gift in support of
"Hacking for Defense." 11/18/2022 - present.

Dean's support for AI integration into introductory programming
Sequences. 6/15/2025 - present.

Publications:

"Stable Flight and Object Tracking with a Quadricopter using an
Android Device" by Benjamin Bardin, William Brown, and Paul
S. Blaer; Technical Report CUCS-037-11, Computer Science
Department, Columbia University (September 2011).

"View Planning and Automated Data Acquisition for 3-D Modeling of
Complex Sites" by Paul S. Blaer and Peter K. Allen; to appear in
Journal of Field Robotics (November/December 2009).

"View Planning for Automated Site Modeling" by Paul S. Blaer;
Ph.D. Thesis, Computer Science Department, Columbia University
(October 2008).

"Data Acquisition and View Planning for 3-D Modeling Tasks" by Paul S. Blaer and Peter K. Allen; IEEE/RSJ International Conference on Intelligent Robots and Systems (October 2007).

"Two Stage View Planning for Large-Scale Site Modeling" by Paul S. Blaer and Peter K. Allen; Third International Symposium on 3D Data Processing, Visualization and Transmission (June 2006).

"View Planning for Automated Site Modeling" by Paul S. Blaer and Peter K. Allen; IEEE International Conference on Robotics and Automation (May 2006).

"A Hybrid Approach to Topological Mobile Robot Localization" by Paul Blaer and Peter K. Allen; Technical Report CUCS-020-05, Computer Science Department, Columbia University (April 2005).

"Automating the 3D Modeling Pipeline" by Peter Allen, Alejandro Troccoli, and Paul Blaer; International Symposium on the CREST Digital Archiving Project (March 2005).

"TopBot: Automated Network Topology Detection with a Mobile Robot" by Paul Blaer and Peter K. Allen; IEEE International Conference on Robotics and Automation (September 2003).

"Topological Mobile Robot Localization Using Fast Vision Techniques" by Paul Blaer and Peter Allen; IEEE International Conference on Robotics and Automation (May 2002).

"AVENUE: Automated Site Modeling in Urban Environments" by Peter Allen, Ioannis Stamos, Atanas Gueorguiev, Ethan Gold, and Paul Blaer; Third International Conference on 3D Digital Imaging and Modeling (May 2001).

"Design, Architecture and Control of a Mobile Site-Modeling Robot" by Atanas Gueorguiev, Peter Allen, Ethan Gold, and Paul Blaer; IEEE International Conference on Robotics and Automation (April 2000).

Teaching Experience:

Spring 2025:

"Data Structures in Java" - COMS W3134 Section 1 at Columbia

University. Instructor.
"Data Structures in Java" - COMS W3134 Section 2 at Columbia University. Instructor.

Fall 2025:

"Hacking 4 Defense" - COMS W4995 at Columbia University. Instructor.
"Introduction to Computer Science and Programming in Java" - COMS 1004 Section 1 at Columbia University. Instructor.
"Introduction to Computer Science and Programming in Java" - COMS 1004 Section 2 at Columbia University. Instructor.

Spring 2025:

"Data Structures in Java" - COMS W3134 Section 1 at Columbia University. Instructor.
"Data Structures in Java" - COMS W3134 Section 2 at Columbia University. Instructor.

Fall 2024:

"Hacking 4 Defense" - COMS W4995 at Columbia University. Instructor.
"Introduction to Computer Science and Programming in Java" - COMS 1004 Section 1 at Columbia University. Instructor.
"Introduction to Computer Science and Programming in Java" - COMS 1004 Section 2 at Columbia University. Instructor.

Summer 2024:

"Introduction to Computing for Engineers and Applied Scientists" - ENGI E1006 at Columbia University. Instructor.
"Data Structures in Java" - COMS W3134 at Columbia University. Instructor.

Fall 2023:

"Hacking 4 Defense" - COMS W4995 at Columbia University. Instructor.
"Introduction to Computer Science and Programming in Java" - COMS 1004 Section 1 at Columbia University. Instructor.
"Introduction to Computer Science and Programming in Java" - COMS 1004 Section 2 at Columbia University. Instructor.

Summer 2023:

"Introduction to Computer Science and Programming in Java" -

COMS W1004 at Columbia University. Instructor.
"Data Structures in Java" - COMS W3134 at Columbia
University. Instructor.
"Intro to Computer Science" - SHAPE. Instructor

Spring 2023:

"Data Structures in Java" - COMS W3134 Section 1 at Columbia
University. Instructor.
"Data Structures in Java" - COMS W3134 Section 2 at Columbia
University. Instructor.
"Computer Programming in Java" - Columbia University Science
Honors Program. Instructor.

Fall 2022:

"Hacking 4 Defense" - COMS W4995 at Columbia University.
Instructor.
"Introduction to Computer Science and Programming in Java"" -
COMS 1004 Section 1 at Columbia University. Instructor.
"Introduction to Computer Science and Programming in Java"" -
COMS 1004 Section H01 at Columbia University. Instructor.
"Introduction to Computer Science and Programming in Java"" -
COMS 1004 Section 2 at Columbia University. Instructor.
"Introduction to Computer Science and Programming in Java"" -
COMS 1004 Section H02 at Columbia University. Instructor.

Summer 2022:

"Introduction to Computer Science and Programming in Java" -
COMS W1004 at Columbia University. Instructor.
"Data Structures in Java" - COMS W3134 at Columbia
University. Instructor.

Spring 2022:

"Data Structures in Java" - COMS W3134 Section 1 at Columbia
University. Instructor.
"Data Structures in Java" - COMS W3134 Section H01 at Columbia
University. Instructor.
"Data Structures in Java" - COMS W3134 Section 2 at Columbia
University. Instructor.

Fall 2021:

"Hacking 4 Defense" - COMS W4995 at Columbia University.
Instructor.
"Introduction to Computer Science and Programming in Java"" -

COMS 1004 Section 1 at Columbia University. Instructor.
"Introduction to Computer Science and Programming in Java" -
COMS 1004 Section 2 at Columbia University. Instructor.

Summer 2021:

"Introduction to Computer Science and Programming in Java" -
COMS W1004 at Columbia University. Instructor.
"Data Structures in Java" - COMS W3134 at Columbia
University. Instructor.

Spring 2021:

"Data Structures in Java" - COMS W3134 at Columbia
University. Instructor.
"Honors Data Structures and Algorithms" - COMS W3137 at
Columbia University. Instructor.

Fall 2020:

"Hacking 4 Defense" - COMS W4995 at Columbia University.
Instructor.
"Data Structures in Java" - COMS W3134 at Columbia
University. Instructor.

Summer 2020:

"Introduction to Computer Science and Programming in Java" -
COMS W1004 at Columbia University. Instructor.
"Data Structures in Java" - COMS W3134 at Columbia
University. Instructor.

Spring 2020:

"Data Structures in Java" - COMS W3134 at Columbia
University. Instructor.
"Honors Data Structures and Algorithms" - COMS W3137 at
Columbia University. Instructor.

Fall 2019:

"Hacking 4 Defense" - COMS W4995 at Columbia University.
Instructor.
"Introduction to Computer Science and Programming in Java" -
COMS W1004 at Columbia University. Instructor.

Summer 2019:

"Introduction to Computer Science and Programming in Java" -
COMS S1004 at Columbia University. Instructor.

"Data Structures in Java" - COMS S3134 at Columbia University. Instructor.

Spring 2019:

"Introduction to Computer Science and Programming in Java" - COMS W1004 at Columbia University. Instructor.

"Data Structures in Java" - COMS W3134 at Columbia University. Instructor.

"Art of Engineering" - ENGI 1102 at Columbia University. MATLAB Instructor.

Fall 2018:

"Hacking 4 Defense" - COMS W4995 at Columbia University. Instructor.

"Data Structures in Java" - COMS W3134 Section 1 at Columbia University. Instructor.

"Data Structures in Java" - COMS W3134 Section 2 at Columbia University. Instructor.

"Art of Engineering" - ENGI 1102 at Columbia University. MATLAB Instructor.

Summer 2018:

"Introduction to Computer Science and Programming in Java" - COMS S1004 at Columbia University. Instructor.

"Data Structures in Java" - COMS S3134 at Columbia University. Instructor.

Spring 2018:

"Data Structures in Java" - COMS W3134 Section 1 at Columbia University. Instructor.

"Data Structures in Java" - COMS W3134 Section 2 at Columbia University. Instructor.

"Art of Engineering" - ENGI 1102 at Columbia University. MATLAB Instructor

Fall 2017:

"Hacking 4 Defense" - COMS W4995 at Columbia University. Instructor.

"Data Structures in Java" - COMS W3134 at Columbia University. Instructor.

"Art of Engineering" - ENGI 1102 at Columbia University. MATLAB Instructor

Summer 2017:

"Computational Aspects of Robotics" - COMS S/W4731 at Columbia University. Instructor.

"Data Structures in Java" - COMS S3134 at Columbia University. Instructor.

Spring 2017:

"Data Structures in Java" - COMS W3134 Section 1 at Columbia University. Instructor.

"Data Structures in Java" - COMS W3134 Section 2 at Columbia University. Instructor.

"Art of Engineering" - ENGI 1102 at Columbia University.
MATLAB Instructor

Fall 2016:

"Introduction to Computer Science and Programming in MATLAB" - COMS W1005 at Columbia University. Instructor.

"Data Structures in Java" - COMS W3134 at Columbia University. Instructor.

"Art of Engineering" - ENGI 1102 at Columbia University.
MATLAB Instructor

Summer 2016:

"Introduction to Computer Science and Programming in MATLAB" - COMS S1005 at Columbia University. Instructor.

"Data Structures in Java" - COMS S3134 at Columbia University. Instructor.

Spring 2016:

"Data Structures in Java" - COMS W3134 at Columbia University. Instructor.

"Honors Data Structures and Algorithms" - COMS W3137 at Columbia University. Instructor.

"Art of Engineering" - ENGI 1102 at Columbia University.
MATLAB Instructor

Fall 2015:

"Introduction to Computer Science and Programming in Java" - COMS W1004 at Columbia University. Instructor.

"Introduction to Computer Science and Programming in MATLAB" - COMS W1005 at Columbia University. Instructor.

"Art of Engineering" - ENGI 1102 at Columbia University.
MATLAB Instructor

Summer 2015:

"Introduction to Computer Science and Programming in MATLAB" -
COMS S1005 at Columbia University. Instructor.

"Data Structures in Java" - COMS S3134 at Columbia
University. Instructor.

Spring 2015:

"Introduction to Computer Science and Programming in Java" -
COMS W1004 at Columbia University. Instructor.

"Art of Engineering" - ENGI 1102 at Columbia University.
MATLAB Instructor

"Computer Programming in Java" - Columbia University Science
Honors Program. Instructor.

Fall 2014:

"Data Structures in Java" - COMS W3134 at Columbia
University. Instructor.

"Art of Engineering" - ENGI 1102 at Columbia University.
MATLAB Instructor

"Computer Programming in Java" - Columbia University Science
Honors Program. Instructor.

Summer 2014:

"Introduction to Computer Science and Programming in MATLAB" -
COMS S1005 at Columbia University. Instructor.

"Data Structures in Java" - COMS S3134 at Columbia
University. Instructor.

"Programming Languages (MATLAB)" - COMS W3101-6, Columbia Video
Network at Columbia University. Course Manager.

Spring 2014:

"Data Structures in Java" - COMS W3134 at Columbia
University. Instructor.

"Programming Languages (MATLAB)" - COMS W3101-6, Columbia Video
Network at Columbia University. Course Manager.

"Computer Programming in Java" - Columbia University Science
Honors Program. Instructor.

"Art of Engineering" - ENGI 1102 at Columbia University.
MATLAB Coordinator.

Fall 2013:

"Introduction to Computer Science and Programming in MATLAB" -

COMS W1005 at Columbia University. Instructor.
"Programming Languages (MATLAB)" - COMS W3101-6, Columbia Video Network at Columbia University. Course Manager.
"Computer Programming in Java" - Columbia University Science Honors Program. Instructor.
"Art of Engineering" - ENGI 1102 at Columbia University. MATLAB Coordinator.

Summer 2013:

"Introduction to Computer Science and Programming in MATLAB" - COMS S1005 at Columbia University. Instructor.
"Programming Languages (MATLAB)" - COMS W3101-6, Columbia Video Network at Columbia University. Course Manager.

Spring 2013:

"Introduction to Computer Science and Programming in MATLAB" - COMS W1005. Instructor.
"Computer Programming in Java" - Columbia University Science Honors Program. Instructor.
"Art of Engineering" - ENGI 1102 at Columbia University. MATLAB Coordinator.

Fall 2012:

"Introduction to Computer Science and Programming in MATLAB" - COMS W1005 at Columbia University. Instructor.
"Programming Languages (MATLAB)" - COMS W3101-6, Columbia Video Network at Columbia University. Course Manager.
"Computer Programming in Java" - Columbia University Science Honors Program. Instructor.
"Art of Engineering" - ENGI 1102 at Columbia University. MATLAB Coordinator.

Summer 2012:

"Object Oriented Programming and Design (JAVA)" - COMS S1007 at Columbia University. Instructor.
"Introduction to Computer Science and Programming in MATLAB" - COMS S1005 at Columbia University. Instructor.
"Programming Languages (MATLAB)" - COMS W3101-6, Columbia Video Network at Columbia University. Course Manager.

Spring 2012:

"Introduction to Computer Science and Programming in MATLAB" - COMS W1005-1 and COMS W1005-2 at Columbia University.

Instructor.

"Programming Languages (MATLAB)" - COMS W3101-6, Columbia Video Network at Columbia University. Course Manager.

"Computer Programming in Java" - Columbia University Science Honors Program. Instructor.

"Art of Engineering" - ENGI 1102 at Columbia University. MATLAB Coordinator.

Fall 2011:

"Introduction to Computer Science and Programming in MATLAB" - COMS W1005 at Columbia University. Instructor.

"Programming Languages (MATLAB)" - COMS W3101-6, Columbia Video Network at Columbia University. Course Manager.

"Computer Programming in Java" - Columbia University Science Honors Program. Instructor.

"Art of Engineering" - ENGI 1102 at Columbia University. MATLAB Coordinator.

Summer 2011:

"Introduction to Computer Science and Programming in MATLAB" - COMS S1005 at Columbia University. Instructor.

"Programming Languages (MATLAB)" - COMS W3101-6, Columbia Video Network at Columbia University. Course Manager.

Spring 2011:

"Introduction to Computer Science and Programming in MATLAB" - COMS W1005 at Columbia University. Instructor.

"Computer Programming in Java" - Columbia University Science Honors Program. Instructor.

Fall 2010:

"Data Structures and Algorithms" - COMS W3137 at Columbia University. Instructor.

"Programming Languages (MATLAB)" - COMS W3101-6, Columbia Video Network at Columbia University. Course Manager.

"Computer Programming in Java" - Columbia University Science Honors Program. Instructor.

Summer 2010:

"Introduction to Computer Science and Programming in MATLAB" - COMS S1005 at Columbia University. Instructor.

"Programming Languages (MATLAB)" - COMS W3101-6, Columbia Video Network at Columbia University. Course Manager.

Spring 2010:

"Data Structures and Algorithms" - COMS W3137 at Columbia University. Instructor.

"Programming Languages (MATLAB)" - COMS W3101-6, Columbia Video Network at Columbia University. Course Manager.

"Computer Programming in Java" - Columbia University Science Honors Program. Instructor.

Fall 2009:

"Introduction to Computer Science and Programming in MATLAB" - COMS W1005 at Columbia University. Instructor.

"Programming Languages (MATLAB)" - COMS W3101-6, Columbia Video Network at Columbia University. Course Manager.

"Computer Programming in Java" - Columbia University Science Honors Program. Instructor.

Summer 2009:

"Introduction to Computer Science and Programming in MATLAB" - COMS S1005 at Columbia University. Instructor.

"Programming Languages (MATLAB)" - COMS W3101-6, Columbia Video Network at Columbia University. Course Manager.

Spring 2009:

"Object Oriented Programming and Design (JAVA)" - COMS W1007 at Columbia University. Instructor.

"Programming Languages (MATLAB)" - COMS W3101-6, Columbia Video Network at Columbia University. Course Manager.

"Computer Programming in Java" - Columbia University Science Honors Program. Instructor.

Fall 2008:

"Introduction to Computer Science and Programming in MATLAB" - COMS W1005 at Columbia University. Instructor.

"Computer Programming in Java" - Columbia University Science Honors Program. Instructor.

Summer 2008:

"Programming Languages (MATLAB)" - COMS W3101-6, Columbia Video Network at Columbia University. Course Manager.

Spring 2008:

"Object Oriented Programming and Design (JAVA)" -

COMS W1007 at Columbia University. Instructor.
"Programming Languages (C)" - COMS W3101-1, Columbia Video
Network at Columbia University. Course Manager.
"Programming Languages (MATLAB)" - COMS W3101-6, Columbia Video
Network at Columbia University. Course Manager.

Fall 2007:

"Introduction to Computer Science and Programming in C" -
COMS W1003 at Columbia University. Instructor.
"Programming Languages (MATLAB)" - COMS W3101-5, Columbia Video
Network at Columbia University. Course Manager.

Spring 2007:

"Introduction to Computer Science and Programming in MATLAB" -
COMS W1005 at Columbia University. Instructor.
"Programming Languages (C)" - COMS W3101-1, Columbia Video
Network at Columbia University. Course Manager.
"Programming Languages (MATLAB)" - COMS W3101-5, Columbia Video
Network at Columbia University. Course Manager.

Fall 2006:

"Introduction to Computer Science and Programming in MATLAB" -
COMS W1005 at Columbia University. Instructor.
"Programming Languages (C)" - COMS W3101-1, Columbia Video
Network at Columbia University. Course Manager.
"Programming Languages (MATLAB)" - COMS W3101-1, Columbia Video
Network at Columbia University. Course Manager.
"Programming Languages (Scripting PHP)" - COMS W3101-4, Columbia Video
Network at Columbia University. Course Manager.

Summer 2006:

"Programming Languages (C)" - COMS W3101-1, Columbia Video
Network at Columbia University. Course Manager.
"Programming Languages (MATLAB)" - COMS W3101-1, Columbia Video
Network at Columbia University. Course Manager.
"Programming Languages (Scripting PHP)" - COMS W3101-4, Columbia Video
Network at Columbia University. Course Manager.

Spring 2006:

"Programming Languages (MATLAB)" - COMS W3101 Section 1 at
Columbia University. Instructor.
"Programming Languages (Scripting PHP)" - COMS W3101 Section 4
at Columbia University (also offered via the Columbia

Video Network). Instructor.

"Programming Languages (C)" - COMS W3101-1, Columbia Video Network at Columbia University. Course Manager.

"Programming Languages (MATLAB)" - COMS W31011, Columbia Video Network at Columbia University. Course Manager.

Fall 2005:

"Programming Languages (C)" - COMS W3101 Section 1 at Columbia University (also offered via the Columbia Video Network).
Instructor.

"Programming Languages (MATLAB)" - COMS W3101 Section 4 at Columbia University. Instructor.

Fall 2003:

"Computational Aspects of Robotics" - COMS W4733 at Columbia University. Teaching Assistant.

Fall 2002:

"3D Photography" - COMS W6998 at Columbia University.
Teaching Assistant.

Spring 2002:

"Artificial Intelligence" - COMS W4701, Columbia Video Network at Columbia University. Course Manager.

"Data Structures and Algorithms" - COMS W3137, Columbia Video Network at Columbia University. Course Manager.

Fall 2001:

"Artificial Intelligence" - COMS W4701, Columbia Video Network at Columbia University. Course Manager.

"Data Structures and Algorithms" - COMS W3137, Columbia Video Network at Columbia University. Course Manager.

Summer 2001:

"Artificial Intelligence" - COMS W4701 at Columbia University. Teaching Assistant.

"Data Structures and Algorithms" - COMS W3137, Columbia Video Network at Columbia University. Course Manager.

Spring 2001:

"Data Structures and Algorithms, Honors" - COMS W3139 at Columbia University. Recitation Instructor.

"Data Structures and Algorithms" - COMS W3137 at Columbia

University. Head Teaching Assistant and Recitation Instructor.

"Data Structures and Algorithms" - COMS W3137, Columbia Video Network at Columbia University. Course Manager.

Fall 2000:

"Data Structures and Algorithms" - COMS W3137-1 and W3137-2 at Columbia University. Head Teaching Assistant and Recitation Instructor.

Spring 1999:

"Computer Organization" - COMS W3824 at Columbia University. Teaching Assistant.

Spring 1998:

"Introduction to Computer Programming in C" - COMS W1003 at Columbia University. Teaching Assistant.

Service

Columbia High School Programs:

Columbia University Science Honors Program (SHP) -
Director since July 2025
Assistant Director 2015 to 2025
Instructor 2008 to 2015

Summer High School Academic Program for Engineers (SHAPE) -
Instructor summers 2023, 2025, and 2026

Computer Science Department:

Director of Undergraduate Studies,
B.S. Programs in Computer Science (July 2015–Present)

Undergraduate Advising,
B.S. Program and CS Minors (Fall 2015–Present)

Member, Academic Committee (July 2015–Present)

Member, Course Assistant (CA) Assignment Committee (July 2015–Present)

Chair, Facilities Committee (July 2015–Present)

Associate Chair for Undergraduate Education and
Chair, Academic Committee (AY 2022–2023)

Member, Lecturer Recruiting Committee (2016–2024); Co-Chair (2019)

Member, Ad Hoc Committee on Undergraduate Curriculum Revision (AY 2022–2023)

Computer Science M.S. Admissions Reviewer (Fall 2015–Present)

School and University Level:

Member, Columbia College Rabi Scholars Selection Committee (2017–Present)

Member, School of Engineering Committee on Instruction (July 2018–December 2023)

Member, Master of Science in Data Science Academic Committee
(Spring 2020–Spring 2024); Admissions Subcommittee (2022–2024)

Member, Columbia College Committee on Science Instruction (CoSI)
(Fall 2022–Fall 2023)

Ad Hoc Member, School of Engineering Promotions Review Committee (2018–Present) -
served for several cases over that time period

Member, Shared Research Computing Policy Advisory Committee (SRCPAC)
(Fall 2015–Present)