DAVID KARAPETYAN

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OFFICE  ADDRESS

University of Rochester

Department of Mathematics

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Rochester, NY 14627

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EDUCATION

University  of  Notre  Dame

· Ph.D, Mathematics 3.9/4.0 August  2007–May  2012

· Awarded the Schmitt  Presidential  Fellowship.  Full scholarship.

University  of  California,  Berkeley

· B.S., Mathematics August  2000–May  2004

· B.A., English Literature August  2000–May  2004

· Awarded the Regents  Scholarship.  Full scholarship.

TECHNICAL  SKILLS

· Proﬁciency in Unix/Linux/FreeBSD, Mac OS X, Windows XP/Vista/7, Bash, C, C++,

Git, GitHub, HTML, JavaScript, MATLAB, R, Ruby, TEX, LATEX, BibTEX, Vim

· Extensive knowledge of PC hardware.  Able to build and repair desktop and laptop computers.

EXPERIENCE

Visiting  Assistant  Professor [University](http://math.rochester.edu/) [of](http://math.rochester.edu/) [Rochester](http://math.rochester.edu/) July  2012–Present

Rochester, NY

· Working in partial  diﬀerential  equations, in particular nonlinear evolution equations.

· Use numerical simulations written in C/C++ to gain intuition about whether certain equations

are well-posed or ill-posed

· For more information on past and current projects, please visit

<http://davidkarapetyan.com/pdfs/cv.pdf> and

[http://davidkarapetyan.com/pdfs/research-statement.pdf.](http://davidkarapetyan.com/pdfs/research-statement.pdf)

Research  Associate [Battelle](http://www.battelle.org/) [Memorial](http://www.battelle.org/) [Institute](http://www.battelle.org/) May  2006–May  2007

Arlington, VA

· Conducted research for Army sponsored and privately sponsored projects in bio-warfare.

· Researched the Analytic Hierarchy Process and used it to devise an algorithm that ranked

biochemicals by overall tactical eﬀectiveness.

Research  Associate [Institute](http://https://www.ida.org/) [for](http://https://www.ida.org/) [Defense](http://https://www.ida.org/) [Analyses](http://https://www.ida.org/) August  2004–August  2005

Alexandria, VA

· Conducted research for Pentagon sponsored and privately sponsored projects.

·  Developed  presentations  by  compiling  and  analyzing  data  on  existing  high  occupancy  toll  lanes  in

the Los Angeles, San Diego, and Chicago metro areas.

· Actions led to Fluor Corporation’s decision to spearhead construction of DC metro area high

occupancy toll lanes in 2008, a $500 million dollar venture.

COURSES

Numerical  Analysis University of Notre Dame Jan  2011–May  2011

Notre Dame, IN

·  Graduate  level  course  sequence  designed  to  introduce  mathematics,  engineering,  and  science  stu-

dents  the  fundamental  concepts  in  numerical  methods  for  solving  partial  diﬀerential  equations  and

theoretical analysis.

· Homework assignments typically involved coding in either C/C++ or MATLAB.

Data  Analysis Coursera January  2013–Present

[https://www.coursera.org](http://https://www.coursera.org)

·  An  applied  statistics  course  focusing  on  data  analysis.   Course  begins  with  an  overview  of  how  to

organize,  perform,  and  write-up  data  analyses.   Then  covers  some  of  the  most  popular  and  widely

used  statistical  methods  like  linear  regression,  principal  components  analysis,  cross-validation,  and

p-values.

·  Instead  of  focusing  on  mathematical  details,  the  lectures  focus  on  applying  statistical  techniques

to  real  data  using  the  R  programming  language,  interpreting  the  results,  and  diagnosing  potential

problems in the analysis.

Probability University of Notre Dame August  2007–December  2007

Notre Dame, IN

·  Topics  included  sample  spaces,  conditional  probability,  independence,  random  variables,  central

limit  theorems,  random  walks,  markov  processes,  martingales,  stochastic  processes,  and  stochastic

integration.

Partial  Diﬀerential  Equations University of Notre Dame August  2009–December  2009

Notre Dame, IN

· Topics included classical theory of solving basic linear elliptic and parabolic and hyperbolic partial

diﬀerential  equations,  variational  calculus,  energy  methods,  regularity  of  weak  solutions,  and  the

Dirichlet and Neumann boundary value problems.

Microeconomic  Theory University of Notre Dame August  2008–December  2008

Notre Dame, IN

·  Topics  included  producer  theory,  consumer  theory,  choice  under  uncertainty,  welfare  analysis,  and

mechanism design.

PROJECTS

Research  Papers August  2009–Present

· List of publications and preprints can be found at [http://www.davidkarapetyan.com/pdfs/publications.pdf.](http://www.davidkarapetyan.com/pdfs/publications.pdf)

· Written in LaTex.

· Managed via Git version control.

C/C++ August  2007–Present

·  Code  written  for  numerical  analysis  courses,  probability  courses,  and  while  learning  C/C++  from

various books.

· Managed via Git version control.

· Code can be found at [https://github.com/dkarapetyan.](http://https://github.com/dkarapetyan)

Personal  Website March  2010–Present

· Coded in Ruby using the Rails framework and the Twitter bootstrap.

· Managed via Git version control.

· Code can be found at [https://github.com/dkarapetyan.](http://https://github.com/dkarapetyan)

Web  Applications March  2010–June  2012

· Written while learning the Ruby programming language.

· Code can be found at [https://github.com/dkarapetyan.](http://https://github.com/dkarapetyan)

Music March  2004–Present

· Finished and unﬁnished pieces can be found at [https://soundcloud.com/david-karapetyan.](http://https://soundcloud.com/david-karapetyan)

HONORS,  AWARDS,  AND  EXTRACURRICULAR  ACTIVITIES

[·](http://graduateschool.nd.edu/admissions/financial-support/prestigious-fellowships/presidential-fellowships-arthur-j-schmitt-fellowships/) [Presidential](http://graduateschool.nd.edu/admissions/financial-support/prestigious-fellowships/presidential-fellowships-arthur-j-schmitt-fellowships/) [Fellowship](http://graduateschool.nd.edu/admissions/financial-support/prestigious-fellowships/presidential-fellowships-arthur-j-schmitt-fellowships/) (a full scholarship), University of Notre Dame August  2007–May  2012

[·](http://students.berkeley.edu/finaid/undergraduates/types_regents.htm) [Regents](http://students.berkeley.edu/finaid/undergraduates/types_regents.htm) [Scholarship](http://students.berkeley.edu/finaid/undergraduates/types_regents.htm) (a full scholarship), University of California, Berkeley August  2000–May  2004

· Nominee for ND Shaheen Graduate School Award for top student March  2012–May  2012

· Chess Expert Title (United States Chess Federation) February  2003–Present

· Graduate Student Union representative for Department of Mathematics August  2009–May  2011

· Music and Poetry Composition, with regular performances of work April  1992–Present

· Armenian General Benevolent Union charity work June  1998–Present