

Gabriel Lopez Zenarosa

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EDUCATION

Doctor of Philosophy
University of Pittsburgh
Industrial Engineering
2016

Master of Software Engineering
Carnegie Mellon University
Software Engineering
2005

Master of Science
Columbia University
Computer Science
2002

Bachelor of Science
University of the Philippines
Computer Science
1997

ACADEMIC, GOVERNMENT, MILITARY AND PROFESSIONAL POSITIONS

Academic Position
Rutgers, The State University of New Jersey
Assistant Professor of Professional Practice
09/2021 – present

Academic Position
National Research Council Research Associateship Programs (NRC RAP)
Research Associate
06/2019 – 06/2021

Academic Position
University of North Carolina at Charlotte
Assistant Professor
08/2016 – 06/2020

Industry Position
University of Pittsburgh
Software Quality Assurance Test Engineer
08/2008 – 09/2009

Industry Position
Carnegie Mellon University
Research Programmer
08/2007 – 09/2008

Industry Position
Self-employed (Contractor/consultant at invivodata, Inc.)
Software Process Consultant
02/2007 – 06/2008

Academic Position
Carnegie Mellon University
Master of Software Engineering Fellow
01/2006 – 05/2007

Industry Position
NYFIX, Inc. (Javelin Technologies, Inc.)
Client Support Engineer
05/2003 – 08/2004

Industry Position
REF Computer Corporation
Software Engineer
06/1997 – 08/2002

Government Position
Department of Science and Technology–Advanced Science and Technology Institute (Philippines)
Student Assistant
04/1995 – 04/1997

JOURNAL PUBLICATIONS (PEER-REVIEWED)

Pretransplant survival of patients with end-stage heart failure under competing risks
PLoS ONE
Volume 17
Issue 8
Article ID e0273100
12 pages
DOI: 10.1371/journal.pone.0273100
2022

On exact solution approaches for bilevel quadratic 0–1 knapsack problem
Annals of Operations Research
Volume 298
Issue 1
Pages 555–572
DOI: 10.1007/s10479-018-2970-4
2021

Genetic capitalism and stabilizing selection of antimicrobial resistance genotypes in *Escherichia coli*
Cladistics
Volume 36
Issue 4
Pages 348–357
DOI: 10.1111/cla.12421
2020

Metapopulation Model from Pathogen’s Perspective: A Versatile Framework to Quantify
Pathogen Transfer and Circulation between Environment and Hosts
Scientific Reports
Volume 9
Issue 1
Article Number 1694
11 pages
DOI: 10.1038/s41598-018-37938-0
2019

Accuracy of the Pediatric End-stage Liver Disease Score in Estimating Pretransplant Mortality
Among Pediatric Liver Transplant Candidates
JAMA Pediatrics
Volume 172
Issue 11
Pages 1070–1077
DOI: 10.1001/jamapediatrics.2018.2541
2018

Diffusion Model for the Adoption of Smartphone Brands under Competitive Pricing
International Journal of Trade, Economics and Finance
Volume 9
Issue 3
Pages 96–99
DOI: 10.18178/ijtef.2018.9.3.595
2018

Using time-varying models to estimate post-transplant survival in pediatric liver transplant recipients

PLoS ONE

Volume 13

Issue 5

Article ID e0198132

21 pages

DOI: 10.1371/journal.pone.0198132

2018

Gray's Time-Varying Coefficients Model for Posttransplant Survival of Pediatric Liver

Transplant Recipients with a Diagnosis of Cancer

Computational and Mathematical Methods in Medicine

Volume 2013

Article ID 719389

13 pages

DOI: 10.1155/2013/719389

2013

JOURNAL PUBLICATIONS (NON PEER-REVIEWED)

Software Mythbusters Explore Formal Methods

IEEE Software

Volume 26

Issue 6

Pages 60–63

2009

JOURNAL PUBLICATIONS (EDITORIAL)

None

BOOK CHAPTER CONTRIBUTIONS

None

BOOK CONTRIBUTIONS

None

PROCEEDINGS (PEER-REVIEWED)

Cascade of Edge Activation in Networks
International Conference on Computational Data and Social Networks, CSoNet 2019
Computational Data and Social Networks
Volume 11917
Pages 141–147
2019

Burden of Renal Transplant Among A Cohort of US Medicare Beneficiaries With Autosomal Dominant Polycystic Kidney Disease
International Society for Pharmacoeconomics and Outcomes Research, ISPOR Annual European Congress 2017
Value in Health
Volume 20
Issue 9
Pages A551–A552
2017

Emergency Department Use Among Autosomal Dominant Polycystic Kidney Disease Patients In The US
International Society for Pharmacoeconomics and Outcomes Research, ISPOR Annual European Congress 2017
Value in Health
Volume 20
Issue 9
Pages A516–A517
2017

Patient and Hospital Characteristics Related to Liver and Kidney Donations in the United States
International Society for Pharmacoeconomics and Outcomes Research, ISPOR 2017
Value in Health
Volume 20
Issue 5
Pages A45–A46
2017

A biologically based discrete-event simulation model of liver transplantation in the United States for pediatric and adult patients
Winter Simulation Conference, WSC 2011
Pages 1275–1282
2011

Towards automated oracles for GUI input validation
International Workshop on Automation of Software Test, AST 2011
Pages 113–114
2011

Experiences in engineering active replication into a traditional three-tiered client-server system
RISE/EFTS Joint International Workshop on Software Engineering for Resilient Systems,
SERENE 2008
Pages 55–60
2008

PRESENTATIONS

Experiences in Flipping the Classrooms for Relatively Large Classes in Geology and Business
Conference presentation
Rutgers Active Learning Symposium 2023
Rutgers Active Learning Community
Piscataway, NJ
May 18, 2023

Trends in PrEP usage and PrEP-to-need ratio in Mecklenburg County, NC in 2013–2019
Conference presentation
American Public Health Association Annual Meeting & Expo 2021
American Public Health Association
Denver, CO and online
October 25, 2021

Cascade of Edge Activation in Networks
Conference presentation
Eighth International Conference on Computational Data and Social Networks
Ho Chi Minh City, Vietnam
November 19, 2019

Cascade of Edge Activation in Influence Networks
Conference presentation
Seventh Annual Meeting of the AFRL Mathematical Modeling and Optimization Institute
AFRL Mathematical Modeling and Optimization Institute
Shalimar, FL
July 31, 2019

Genomic analysis of the origins and spread of multidrug resistant bacteria
Invited presentation (co-presented with Daniel Janies, UNC Charlotte)
Academy for Population Health Innovation Academic Thursdays
Academy for Population Health Innovation
UNC Charlotte, Charlotte, NC
March 28, 2019

Operations Research in Healthcare Systems
Invited presentation
Infrastructure and Environmental Systems Seminar
Infrastructure and Environmental Systems
UNC Charlotte, Charlotte, NC
September 25, 2018

Operations Research in Healthcare Delivery
Invited presentation
Academy for Population Health Innovation Seminar
Academy for Population Health Innovation
UNC Charlotte, Charlotte, NC
May 17, 2019

Diffusion Model for the Adoption of Smartphone Brands under Competitive Pricing
Conference presentation
International Conference on Economics and Finance Research
Prague, Czech Republic
April 8, 2018

An Exact-solution Approach to the Bilevel Quadratic 0–1 Knapsack Problem
Invited presentation
University of the Philippines Department of Computer Science Seminar
University of the Philippines Department of Computer Science
Diliman, Quezon City, Philippines
March 5, 2018

The Bilevel Quadratic Knapsack Problem
Conference presentation
Fifth Annual Meeting of the AFRL Mathematical Modeling and Optimization Institute
AFRL Mathematical Modeling and Optimization Institute
Shalimar, FL
August 1, 2017

Operations Research in Healthcare Delivery
Invited presentation
Levine Cancer Institute Translational Science Seminar
Levine Cancer Institute
Charlotte, NC
June 27, 2017

Reliability Engineering Applied to Therapy Sequencing
Invited presentation
ISPOR at UNC Charlotte
College of Health and Human Services
UNC Charlotte, Charlotte, NC
May 4, 2017

Decision Models for Organ Allocation: Big Data Strategies
Invited presentation
Charlotte Banks Donor Day
Charlotte Banks
UNC Charlotte, Charlotte, NC
February 14, 2017

An Integer L-shaped Approach to a Stochastic Program with Endogenous Uncertainty and Chance-constrained Recourse
Conference presentation
INFORMS Annual Meeting 2016
INFORMS
Nashville, TN
November 13, 2016

A Stochastic Program with Chance-constrained Recourse for Surgery Scheduling and Rescheduling
Conference presentation
INFORMS Annual Meeting 2015
INFORMS
Philadelphia, PA
November 3, 2015

Scenario-Tree Decomposition: Bounds for Multistage Stochastic Mixed-Integer Programs
Invited presentation
Rice University Computational and Applied Mathematics Graduate Seminar
Computational and Applied Mathematics
Rice University, Houston, TX
October 21, 2015

Scenario-Tree Decomposition: Bounds for Multistage Stochastic Mixed-Integer Programs
Conference presentation
International Symposia on Mathematical Programming 2015
Mathematical Optimization Society
Pittsburgh, PA
July 17, 2015

Models for Planning Under Uncertainty
Invited presentation
Master of Software Engineering 25th Anniversary
Master of Software Engineering
Carnegie Mellon University, Pittsburgh, PA
March 21, 2015

Hierarchies of Bounds for Multistage Stochastic Mixed-integer Programs
Conference presentation
INFORMS Annual Meeting 2014
INFORMS
San Francisco, CA
November 11, 2014

Integrating Proactive and Reactive Operating Room Management
Conference presentation
INFORMS Annual Meeting 2014
INFORMS
San Francisco, CA
November 10, 2014

A biologically based discrete-event simulation model of liver transplantation in the United States
for pediatric and adult patients
Conference presentation
Winter Simulation Conference 2011
Phoenix, AZ
December 12, 2011

Towards automated oracles for GUI input validation
Conference presentation
Sixth International Workshop on automation of Software Test
Honolulu, HI
May 23, 2011

Experiences in engineering active replication into a traditional three-tiered client-server system
Conference presentation
2008 RISE/EFTS Joint International Workshop on Software Engineering for Resilient Systems
Newcastle upon Tyne, United Kingdom
November 18, 2008

INTELLECTUAL PROPERTY

None

PUBLISHED CASES or CASE COMPETITION ORGANIZER/JUDGE

None

COMPLICATION OF READINGS, ARTICLES, OR CASES

None

ONLINE BLOGS/NEWSPAPER COLUMNS or ACADEMIC/PROFESSIONAL VIDEOS (must provide public access website)

None

CONSULTING

Software Process Consultant
invivodata, Inc.
Pittsburgh, PA
Principal (self-employed)
Compensated
02/2007 – 06/2008

CONTRACTS, FELLOWSHIPS, GRANTS AND SPONSORED RESEARCH

Grant
Love of Learning Award
The Honor Society of Phi Kappa Phi
Gabriel Zenarosa (Awardee)
\$500
2022
[Merit URL: https://phikappaphi.meritpages.com/stories/Gabriel-Lopez-Zenarosa-Receives-2022-Phi-Kappa-Phi-Love-of-Learning-Award/92917219](https://phikappaphi.meritpages.com/stories/Gabriel-Lopez-Zenarosa-Receives-2022-Phi-Kappa-Phi-Love-of-Learning-Award/92917219)

Grant
Open and Affordable Textbooks (OAT) Award
Rutgers Libraries, Rutgers, The State University of New Jersey
Gabriel Zenarosa (PI)
\$1,000
Academic Year 2022 – 2023

Fellowship
Course Transformation Summer Institute
Teaching Excellence Network, Rutgers, The State University of New Jersey
Gabriel Zenarosa (Fellow)
\$5,799 stipend
July 6, 2022 – July 26, 2022

Grant

Evaluation of a Novel Method for Determining County-level Changes in Pre-exposure Prophylaxis Usage

Gilead Sciences, Inc.

Patrick A. Robinson (PI), Gabriel Lopez Zenarosa (co-PI)

\$77,813.16

June 21, 2019 – December 31, 2021

Fellowship

Stochastic Bilevel Quadratic Knapsack Problem

National Research Council Research Associateship Programs (NRC RAP)

Gabriel Lopez Zenarosa (Fellow)

\$85,542 stipend + \$4,000 travel (Year 1); \$88,542 stipend + \$4,000 travel (Year 2)

June 3, 2019 – June 2, 2021

Grant

Optimizing Budget Appropriation for Network Subproblems Under Uncertainty

Faculty Research Grant, UNC Charlotte

Gabriel Lopez Zenarosa (PI)

\$7,700

January 15, 2018 – May 30, 2019

Fellowship

The Bilevel Quadratic Knapsack Problem

AFRL Summer Faculty Fellowship Program (SFFP)

\$15,351.72 (Summer stipend)

June 5, 2017 – July 28, 2017

Traineeship

Simulation Modeling of Donor Liver Allocation for Adult and Pediatric Patients in the US

Training Grant T-32, University of Pittsburgh, Clinical and Translational Science Institute

Steven Reis (PI), Gabriel Lopez Zenarosa (Trainee)

Tuition, Stipend, Travel, and Equipment allowances for two years

July 1, 2010 – June 30, 2011 (Year 1) and January 1, 2012 – December 31, 2012 (Year 2)

PROFESSIONAL MEMBERSHIPS

The Honor Society of Phi Kappa Phi

Member

1997 – present

Association of Computing Machinery (ACM)

Member

2003 – present

Institute of Operations Research and the Management Sciences (INFORMS)
Member
2010 – present

INFORMS Student Chapter at the University of Pittsburgh
President
2011 – 2012

American Public Health Association
Member
2021 – 2022

Society for Industrial and Applied Mathematics (SIAM)
Member
2014 – 2018

International Society for Pharmacoeconomics and Outcomes Research (ISPOR)
Member
2017 – 2019

AWARDS / HONORS

Outstanding Research Assistant Award
University of Pittsburgh
Graduate Student Research Productivity
2014

Cum Laude Honors
University of the Philippines
Academic Achievement
1997

PROFESSIONAL AND/OR EXECUTIVE TRAINING

None

FACULTY DEVELOPMENT ACTIVITIES ATTENDED (*conference, workshop, seminar, course took/attended, but not participated in*)

Conference
Anchoring Higher Education Conference 2023
Rutgers–Newark & P3 Collaboratory
Rutgers, The State University of New Jersey
Newark, NJ
April 27, 2023

Course

ACUE Microcredential: Creating an Inclusive and Supportive Learning Environment
P3 Collaboratory & Association of College and University Educators
Rutgers, The State University of New Jersey
Online (Newark, NJ)
Badge URL: <https://badgr.com/public/assertions/VKgkzXTpS7OGVp9RHsAGkg>
Fall 2022

Course

Course Transformation Summer Institute
Teaching Excellence Network
Rutgers, The State University of New Jersey
Online (New Brunswick, NJ)
July 6, 2022 – July 26, 2022

Course

ACUE Microcredential: Promoting Active Learning
P3 Collaboratory & Association of College and University Educators
Rutgers, The State University of New Jersey
Online (Newark, NJ)
Badge URL: https://badgr.com/public/assertions/O_Bi1ZhyTpiNIV1CdH7NaQ
Summer 2022

Course

ACUE Microcredential: Designing Student-Centered Courses
P3 Collaboratory & Association of College and University Educators
Rutgers, The State University of New Jersey
Online (Newark, NJ)
Badge URL: <https://badgr.com/public/assertions/95AlxZeLTourlAuoCR09Cg>
Spring 2022

Conference

APHA 2021 Annual Meeting & Expo
American Public Health Association
Denver, CO and Online
October 24, 2021 – October 27, 2021

Course

ACUE Microcredential: Inspiring Inquiry and Preparing Lifelong Learners in Your Online Course
P3 Collaboratory & Association of College and University Educators
Rutgers, The State University of New Jersey
Online (Newark, NJ)
Badge URL: <https://badgr.com/public/assertions/iREQIV8qQPG1bWZ7nMZ1GA>
Fall 2021

Year-long Workshop
Active Learning Academy
UNC Charlotte
Charlotte, NC
August 2018 – May 2019

Workshop
NSF CAREER and CRII Writing Workshop
National Science Foundation
Charlotte, NC
March 2018

Workshop
Department of Defense Workshop
Department of Defense
Charlotte, NC
October 2016

Seminar Series
Faculty Transitions Seminar Series
UNC Charlotte
Charlotte, NC
August 2016 – December 2016

LICENSURES AND CERTIFICATIONS

Certificate
ACUE Credential in Effective College Instruction
P3 Collaboratory & Association of College and University Educators
Rutgers, The State University of New Jersey
Online (Newark, NJ)
Badge URL: <https://badgr.com/public/assertions/fBL5w-4ST12YA2IZAGFlvQ>
Fall 2022

MEDIA CONTRIBUTIONS and QUOTES

Doctors Fear Patients Could Die Waiting for a New Liver in the Carolinas under New Rules
Newspaper
Charlotte Observer
<https://www.charlotteobserver.com/news/local/article240309256.html>
February 2019

Children disadvantaged by liver transplant wait list scores

Online Press

United Press International (UPI)

https://www.upi.com/Health_News/2018/09/17/Children-disadvantaged-by-liver-transplant-wait-list-scores/2731537207977/

September 2018

UNC Charlotte Faculty Initiative Increases Viability of Organ Transplants

Online Academic Press

The University of North Carolina System

<https://www.northcarolina.edu/news/preserving-life/>

June 2017

DIRECTED STUDENT LEARNING (*e.g. Theses, Dissertations*)

Dissertation Adviser

Sagar Satyanarayana

Infrastructure and Environmental Systems, UNC Charlotte

August 2018 – September 2021

Master's Thesis Adviser

Sagar Satyanarayana

Engineering Management, UNC Charlotte

August 2017 – December 2018

Undergraduate Research Adviser

Kevin B. Smith

Systems Engineering, UNC Charlotte

August 2018 – May 2020

Master's Capstone Project Co-adviser

Rashini Ashokan

Engineering Management, UNC Charlotte

January 2017 – December 2017

Master's Capstone Project Co-adviser

Chetan-Kumar Chandrashekar

Engineering Management, UNC Charlotte

August 2018 – December 2018

Master's Capstone Project Co-adviser

Aldron Peter Dsouza

Engineering Management, UNC Charlotte

January 2019 – May 2019

Master's Capstone Project Adviser
Anne McAllister
Engineering Management
August 2019 – December 2019

Master's Capstone Project Adviser
Madhur Jain
Engineering Management
August 2019 – May 2020

SERVICE TO THE PROFESSION *(must include Start/End Date)*

Leadership Roles

None

Session Chair

INFORMS Annual Meeting 2016 (Session: Large-scale Stochastic Mixed-integer Programs)

Paper Reviewer

INFORMS Journal on Computing
Institute of Industrial and Systems Engineers (IISE) Transactions
Omega: The International Journal of Management Science
Journal of Combinatorial Optimization
Optimization Letters
Computational Social Networks
Mathematical Medicine and Biology: A Journal of the IMA

Paper Discussant

None

Book Review

None

Editor

None

SERVICE TO THE UNIVERSITY

Adviser for Del Lennard Padiz, Honors Course Contract Option
Appointed
Fall 2021

SERVICE TO THE COLLEGE

Academic Integrity Facilitator, Rutgers Business School
Appointed
January 2022 – present

SERVICE TO THE DEPARTMENT

Course Captain for Management Information Systems, Rutgers Business School
Course Captain
Appointed
September 2022 – present

Curriculum Committee, UNC Charlotte Systems Engineering and Engineering Management
Member
Appointed
August 2018 – May 2019

SERVICE TO THE LOCAL COMMUNITY

Hot Yoga Revolution
Community Yoga Class Teacher (benefiting: American Foundation for Suicide Prevention)
Metuchen, NJ
Volunteered
January 13, 2023

Cathedral of Saint Patrick Choir
Tenor
Pittsburgh, PA
Volunteered
September 2018 – June 2019

Art on Fire, Pittsburgh Glass Center
Host Committee Member
Pittsburgh, PA
Appointed
September 2018

Art on Fire, Pittsburgh Glass Center
Co-chair
Pittsburgh, PA
Appointed
September 2017

Cathedral of Saint Patrick Choir
Tenor
Pittsburgh, PA
Volunteered
September 2007 – June 2015

Cathedral of Saint Patrick Choir
Bass
Pittsburgh, PA
Volunteered
September 2006 – June 2007