



Casey MOFFATT
Mathematics | Computer Science
caseymoffatt@msn.com
[Website](#) | [LinkedIn](#)

SUMMARY

Focused mathematician well-versed in identifying strategic opportunities to benefit business decisions. Systematic and driven with strong attention to detail and dedication to developing and managing successful analytical processes. Objective, insightful, and shrewd in understanding and applying business requirements. Experience recognizing patterns, interpreting data, and generating useful reports. Expert in mathematical modeling, and optimization. Accomplished Mathematics Instructor brings expertise in theoretical and applied mathematics, as well as strong communication and presentation skills.

SKILLS

APPLIED MATHEMATICS Mathematical Modeling | Big Data | Machine Learning | Operations Research
Optimization | Linear/Non-Linear Programming | Analytic Decision Making | Algorithms

PROGRAMMING & SOFTWARE *Experienced:* Python | GAMS | LaTeX *Familiar:* C++ | Ruby | SQL | R | MATLAB | AMPL

FRAMEWORKS & LIBRARIES Matplotlib | Numpy | Pandas | Jupyter

RESEARCH Complex Problem Solving | Scientific Writing | Technical Presentations

PUBLICATIONS

J. DIEMUNSCH, M.FERRARA, A. LO, C. MOFFATT, F. PFENDER, AND P.S. WENGER, **"RAINBOW MATCHINGS OF SIZE $\delta(G)$ IN PROPERLY EDGE-COLORED GRAPHS"**. ELECTRONIC JOURNAL OF COMBINATORICS. 19(2) (2012), P52.
(PRESENTED AT THE 15TH ANNUAL ROCKY MOUNTAIN DISCRETE MATHEMATICS DAYS, DENVER UNIVERSITY)

M. FERRARA, T. LESAULNIER, C. MOFFATT, AND P. WENGER, **"ON THE SUM NECESSARY TO ENSURE THAT A DEGREE SEQUENCE IS POTENTIALLY H-GRAPHIC"**. ARXIV PREPRINT ARXIV:1203.4611, 2012.
(PRESENTED AT THE MIDWESTERN GRAPH THEORY LIII CONFERENCE, IOWA STATE UNIVERSITY)

A. ENGAU, C. MOFFATT, AND W. DYK, **"A MULTICRITERIA MODEL AND TRADEOFF ANALYSIS FOR OIL LOAD DISPATCH AND HAULING OPERATIONS AT NOBLE ENERGY"**. OPTIM ENG. 16 (2015), 73-101.

A. BRANDT, J. DIEMUNSCH, C. ERBES, J. LEGRAND, AND C. MOFFATT. **"COPS AND ROBBERS VIA DISTANCE QUERIES"**. DISCRETE APPLIED MATHEMATICS 232 (11 DEC. 2017), 99-106.
(PRESENTED AT THE 26TH CUMBERLAND CONFERENCE ON COMBINATORICS, GRAPH THEORY & COMPUTING)

EDUCATION

UNIVERSITY OF COLORADO DENVER 2009-2013
PHD EXPERIENCE, ALL BUT DISSERTATION.
• Emphasis in Graph Theory, Extremal Combinatorics and Optimization.

UNIVERSITY OF COLORADO DENVER 2007-2009
M.S. IN APPLIED MATHEMATICS
• GPA: 3.574

UNIVERSITY OF COLORADO DENVER 2004-2007
DOUBLE BACHELOR'S B.A./B.S. IN PHILOSOPHY AND PURE MATHEMATICS, MINOR ATTACHED ASTROPHYSICS
• GPA: 3.144

FRONT RANGE COMMUNITY COLLEGE 2000-2003
A.S.

EXPERIENCE

MATHEMATICS TUTOR, UCD - CENTER FOR LEARNING ASSISTANCE.

2007-2010

Responsibilities: Tutor all undergraduate mathematics courses. The Center has a nationally certified training program. This is a weekly training program covering topics such as learning styles, disabilities, cultural issues, and many more relevant topics as well as teaching practices. Through this training all tutors progress towards certification of their own. I attained my Level 1, then my Level 2 Tutoring Certificates.

GRADUATE RESEARCH/TEACHING ASSISTANT, UNIVERSITY OF COLORADO DENVER

2009-2013

Research Responsibilities: Required to attend/present at weekly research seminars. Produced research, attended national conferences as well as presented personal research, and followed current research in relevant fields.

Teaching Responsibilities: All the same responsibilities as a full instructor (3-5 credit hours per semester).

MATHEMATICS INSTRUCTOR, UNIVERSITY OF COLORADO DENVER

2014-2015

Responsibilities: Developed the syllabus and overall course structure, prepared and gave all lectures, wrote and graded tests/quizzes/homework, held regular office hours, and administered all grades (12 credit hours per semester).

MATHEMATICS INSTRUCTOR, JOHNSON AND WALES UNIVERSITY

2014-2015

All the same responsibilities as a full time instructor listed above (12 credit hours per semester).

MATHEMATICS INSTRUCTOR, WESTWOOD COLLEGE

2015-2016

All the same responsibilities as a full time instructor listed above (12 credit hours per semester).

MATHEMATICS INSTRUCTOR, COMMUNITY COLLEGE OF DENVER

2016-2020

All the same responsibilities as a full time instructor listed above (18-21 credit hours per semester).

HEALTH AND PROFESSIONAL DEVELOPMENT.

2020-2022

Description: Since COVID has reshaped the world. I have taken the last few years to focus on my family and I's, mental and physical health. At the same time, using this time to sharpen my programming and research skills. Through the website HackerRank.com among other sources I have been refreshing and extending my coding knowledge. Recently I have achieved multiple certifications, including Python, SQL, Problem Solving with Algorithms and Data Structures, with more in progress.

COURSES TAUGHT

- **University Of Colorado Denver:**

Math 1080 Polynomial Calculus, Math 1120 College Trigonometry, Math 1130 Pre-Calculus, Math 1401 Calculus 1, Math 2411 Calculus 2, Math 2421 Calculus 3.

- **Johnson And Wales University:**

Math 0010 Basic Math, Math 1002 Survey of College Math, Math 2001 Statistics.

- **Westwood College:**

Math 107 College Mathematics, Math 170 College Algebra 1, Math 331 Calculus 1, Math 340 Statistics, Math 401 Linear Algebra.

- **Community College Of Denver:** Math 050 Quantitative Literacy, Math 103 Clinical Calculations, Math 120 Math For Liberal Arts, Math 121 College Algebra, Math 122 College Trigonometry, Math 123 Finite Mathematics, Math 125 Survey of Calculus, Math 135 Statistics, Math 201 Calculus 1, Math 202 Calculus 2.