Grant **Baker**

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Education

University of Colorado Boulder   *Boulder, Colorado*

B.S./M.S. IN APPLIED MATHEMATICS   *Expected Graduation May 2019*

- Minor in Computer Science
- Focusing on mathematical modeling including both physical systems and statistical learning.

Work Experience

Northrop Grumman   *Aurora, CO*

MACHINE LEARNING INTERN   *May 2017 - August 2017*

- Trained Tensorflow-based convolutional neural networks on custom datasets and deployed on autonomous embedded systems.
- Familiarized a team of engineers with my work to continue and expand upon the project in application to company research interests.

University of Colorado Boulder, Department of Applied Mathematics   *Boulder, CO*

UNDERGRADUATE RESEARCHER   *May 2016 - May 2017*

- Under the direction of Professor Mark Hoefer in the Dispersive Hydrodynamics laboratory:
  - Modeled and analyzed shallow water dispersive waves, designed a water tank and measurement apparatus for an experiment.
  - Implemented Fourier Transform Profilometry measure data and compare with theory.
- Under the direction of Professor Mark J. Ablowitz:
  - Developed and implemented numerical techniques for solving ordinary differential equations in the complex plane.

University of Colorado Boulder, Department of Applied Mathematics   *Boulder, CO*

COURSE ASSISTANT   *January 2017 - Present*

- Courses: APPM 4350: Fourier Series and Partial Differential Equations; APPM 3310: Matrix Methods
- Write homework solutions, run homework help sessions and projects, increase understanding of material, and grade students' work.

Relevant Experience

MATHEMATICS EXPERIENCE

Data Assimilation, Fourier Series, Complex Analysis, Dynamical Systems, Computational Numerics, Probability, Statistics, Partial Differential Equations

PROGRAMMING EXPERIENCE

Python, Mathematica, Bash, LaTeX, MATLAB, C++, C, x86-64 Assembly

SOFTWARE EXPERIENCE

Ubuntu Linux, TensorFlow, Numpy, OpenCV, Robot Operating System

Organizations

2015 - Present	**Member**, Engineering Honors Program at CU-Boulder	*Boulder, CO*
2016 - 2017	**Officer**, Society of Industrial and Applied Mathematics, CU-Boulder Chapter	*Boulder, CO*
2015 - Present	**Member**, Society of Industrial and Applied Mathematics	

Personal Projects

ROTATIONS CLOCK   *August 2016 - Present*

Designing, manufacturing, and building a large, 8-foot diameter mechanical clock for Andrews Hall at CU-Boulder.

COMAP MATHEMATICAL CONTEST IN MODELING   *January 2016*

Participated in the COMAP Mathematical Contest in Modeling. Wrote a paper to model removal of space junk.

TREASURE CHEST CLOCK   *September 2015 - January 2016*

Designed and built a modular digital clock with integrated circuit chips housed in custom-built wooden treasure chests.