Evan DeSantola

Pittsburgh, PA, 15213

215 279 0317

evan@desantola.com
desantola.com
github.com/evandesantola
linkedin.com/in/desantola/

Skills:

- Data Analysis
- Software Engineering
- Machine Learning
- Numerical Methods
- Distributed Computing

Background:

- Computer Science
- Probability
- Mathematics
- Computational Physics

Technologies:

Python:
- Tensorflow (DESCO)
- Numpy (DESCO)
- OR-tools (DESCO)

C++ 14/17:
- CUDA (SpaceX)
- CUB (SpaceX)
- BLAS/LAPACK (SpaceX & LLNL)
- MLPACK

Other Languages:
- golang
- Java
- MATLAB
- SML
- C

Favorite Books:

- Bayesian Data Analysis
- Other Minds
- Guns, Germs, and Steel
- Principles

I'm a senior studying computer science seeking full-time roles.

EDUCATION:

Carnegie Mellon University, School of Computer Science (SCS)

B.S. Candidate, School of Computer Science (May '19, GPA 3.3 on a 4.0 scale)
Minors in Machine Learning and Business Administration

WORK EXPERIENCE:

Front Office Intern, D.E. Shaw Group (DESCO), Summer '18

- ➔ Quantitative data analysis research project. Prototyped or applied methods using regression modeling, deep reinforcement learning, MILP and constraint programming. Contact for more information.
- ➔ For an application with asymmetric costs, redesigned model and added non-linear loss function to achieve a **35% smaller underestimation rate** and a **70% smaller mean overestimation** compared to current model.

Head Teaching Assistant, School of Computer Science, Spring '18

- ➔ Led recitations, designed assignments, held office hours, created rubrics, and graded coursework for a **graduate level A.I. Class** (15-694), which surveys computer vision and robot perception.

Co-founder, Bridgly L.L.C, Spring 2018

- ➔ Created a tool with my co-founder to help realtors collaboratively build, curate and share lists of contractors.
- ➔ Built backend, data analytics tools, machine learning suite and client facing UI/UX. See **bridgly.com**

Propulsion Intern, Space Exploration Technologies (SpaceX) Propulsion R&D, Summer '17

- ➔ Worked for a propulsion research team that builds a simulation of the Navier-Stokes equation on the GPU.
- ➔ Provided support for arbitrary complex geometries on the GPU. Implemented computational physics data structures and numerical algorithms. Designed and ran validation simulations to verify correctness.
- ➔ Restructured derivatives/boundary condition computation; **30% global speedup** at no cost to accuracy.

Computation Intern, Lawrence Livermore National Lab (LLNL), Summer '16

- ➔ Research was competitively accepted into SC16 (via ACM SPS). Research was then **shortlisted for best ACM SRC for Posters at SC16.** Achieved 12x intra-node speedup for signed distance queries.
- ➔ Implemented computational physics and numerical linear algebra methods for multi-physics toolkit.

RESEARCH:

Senior Honors Thesis, CMU School of Computer Science Theory Group, Spring '18-'19

- ➔ Design and evaluating partisan gerrymandering protocols with provably non-partisan outcome.
- ➔ Generate human playable maps that approximate to real-world electoral data using MILP (completed).
- ➔ Train RL models with user behavior to demonstrate computational tractability of near-optimal play.

Bioinformatics Research, CMU Computational Biology Department, Fall '16

- ➔ Worked on bioinformatics research to improve feature selection for cancer genomics model.

Research Assistant, CMU Language Technologies Institute, Fall '15

- ➔ Helped with development of a model for detecting which apps are often used in sequence.

HACKATHONS:

HackIllinois: Grand Prize + Microsoft's Best Microsoft Hack + Best Use of Azure, Spring '16

- ➔ Data science hack to detect Parkinson's Disease using handwriting, speech, and wearable accelerometer data. Largest student hackathon of Spring '16.
- ➔ Built the hand tremor detection tool and entire UX/UI. Designed the stutter detection method.

PennApps: Best Health Hack, Spring '16

- ➔ Hack targeted diabetic treatment. Created the backend tools, which used deep learning for predicting insulin dosage, and gamified patient compliance through a collective betting system.

BostonHacks: Grand Prize, Fall '15

- ➔ Hack provided an automated medical line callable from standard phones. Built the web scrapers and text miners that diagnose users' complaints and identify relevant medical information.

AWARDS, ACHIEVEMENTS & ORGANIZATIONS:

- Microsoft Imagine Cup National Semifinalist (competition among 358,000 student developers)
- Plaid Parliament of Pwning (PPP) (security research group at CMU that competes in CTFs)
- Eagle Scout, EMT and former Order of the Arrow Chapter Chief (BSA's National Honor Society)
- MellonHeads (student hackathon interest group), TartanHacks Mentor and TartanHacks '16 organizer
- CMU Explorers Club (student outdoor activity interest group)