# VINIT RANJAN

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## EDUCATION

**Princeton University** *Princeton, NJ* *Aug 2020 - Present*
Ph.D. in Operations Research & Financial Engineering
Advisor: B. Stellato

**Duke University** *Durham, NC* *Aug 2016 - Dec 2019*
B.S. in Computer Science, Mathematics *Graduation Honors: Magna Cum Laude*
Minor in Financial Economics **Cumulative GPA: 3.929/4.00**

## RESEARCH INTERESTS

· Data-driven methods
· Machine learning
· Parametric optimization

## PUBLICATIONS

· **V. Ranjan**, J. Ryang, and A. Xue. "Time to Leave the Louvre: A Computational Network Analysis." *The Journal of Undergraduate Mathematics and Its Applications*, 40.2-3 (2019), pp. 135-160.
· I. Cristali, **V. Ranjan**, J. Steinberg, E. Beckman, R. Durrett, M. Junge, and J. Nolen. "Block size in Geometric(p)-biased permutations." *Electronic Communications in Probability*, 23 (2018), paper no. 80, pp. 10. doi:10.1214/18-ECP182.
· **V. Ranjan**, J. Ryang, and K. Zhang. "An Analysis of the Impact of Self-Driving Cars on Traffic Conditions." *SIAM Undergraduate Research Online*, 11 (2018). doi:10.1137/17S015768

## RESEARCH EXPERIENCE

### Graduate Research

Certification Problems for Parametric Optimization *Jan 2021 - Present*
*Professor: B. Stellato*

### Undergraduate Research

Point Clouds and Geometric Algorithms *May 2018 - Aug 2018, Jan 2020 - June 2020*
*Mentors: E. Wolf and C. Eckman at Lineage Logistics*

Online Admission Control Algorithms *Jan 2018 - May 2018*
*Professor: D. Panigrahi*

Machine Learning Applications *Aug 2017 - May 2018*
*Professor: L. Carin*

Probability and Stochastic Processes *May 2017 - Aug 2017*
*Professors: R. Durrett, M. Junge, and J. Nolen*

### Talks

· "Performance Certification of First Order Methods for Parametric Quadratic Optimization." *International Conference on Continuous Optimization*, (Jul 2022). Joint work with: B. Stellato.
· "Pace and Space: An Alternative Measure of NBA Shooting Prowess." *Carnegie Mellon Sports Analytics Conference*, (Oct 2018). Joint work with: A. Ghadiyaram, S. Silwal, and R. Shah.

**Poster Presentations**

· "Pace and Space: An Alternative Measure of NBA Shooting Prowess." *MIT Sloan Sports Analytics Conference*, (May 2019). Joint work with: A. Ghadiyaram, S. Silwal, and R. Shah.

## TEACHING EXPERIENCE

**Graduate Teaching Assistant**

Optimization — *Spring 2022*
*Professor: B. Stellato*

Optimal Learning — *Fall 2021*
*Professor: M. Soner*

**Undergraduate Teaching Assistant**

Discrete Mathematics for Computer Science — *Fall 2017, 2018, 2019*
*Professor: B. Donald*

· Note: appointed as Head Undergraduate Teaching Assistant during the Fall 2019 term.

Discrete Mathematics for Computer Science — *Spring 2019*
*Professor: D. Panigrahi*

Intro to Operating Systems — *Spring 2019*
*Professor: A. Lebeck*

Intro to Design/Analysis of Algorithms — *Spring 2018*
*Professor: D. Panigrahi*

## AWARDS

**Mathematical Modeling Awards**

· 2019 Consortium for Mathematics and Its Applications (COMAP), Mathematical Contest in Modeling/Interdisciplinary Contest in Modeling (MCM/ICM), **Outstanding solution** (top 7 of 5000+ for chosen problem). Earned the **Leonard Euler Award** for excellence in modeling and $10000 **COMAP scholarship.**
· 2018 COMAP MCM/ICM, **Meritorious Solution** (top 15%).
· 2017 COMAP MCM/ICM, **Finalist Solution** (top 11 of 1500+ for chosen problem).

**Other Research Awards**

· Carnegie Mellon Sports Analytics Conference, Reproducible Research Competition, **2nd place**.

**Duke Awards**

· **Karl Menger Award** for excellence in mathematical competitions. May 2017, 2019.
· **Dean's List** for earning a top GPA during the respective semester. Earned in Fall 2017, Spring 2018, and with distinction for Fall 2016, Spring 2017, Spring 2019.

## PROFESSIONAL EXPERIENCE

Software Engineering Intern — *May 2019 - Aug 2019*
*Google Health Research Team, Google, Palo Alto, CA*

Data Science Intern — *May 2018 - Aug 2018, Jan 2020 - Jun 2020*
*Lineage Logistics, San Francisco, CA*

## TECHNICAL SKILLS

**Programming Languages:** Python, R, Java, C/C++
**Software:** Git, SLURM, LaTeX