Anders Wikum

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EDUCATION

Stanford University — **Palo Alto, CA**
PhD in Management Science & Engineering — *Starting Sep 2022*

Cornell University — **Ithaca, NY**
BS in Operations Research and Information Engineering, 4.158 — *Aug 2018 - May 2021*
Minors in Math and Computer Science

University of Illinois at Urbana-Champaign (Incomplete—Transfer) — **Urbana, IL**
BS in Engineering Physics, 4.0 — *Aug 2017–May 2018*

Relevant Coursework

Analysis of Algorithms • Graph Theory and Network Flows • Optimization I and II • Machine Learning for Intelligent Systems • Bayesian Machine Learning • Simulation Modeling and Analysis • Numerical Analysis • Stochastic Processes • Honors Linear Algebra • Abstract Algebra • Real Analysis

Honors and Awards

- NDSEG Fellow, 2022
- Distinctive Rating, McKinsey & Company, 2022
- Merrill Presidential Scholar, Cornell University, 2021
- College banner-bearer, Cornell College of Engineering, 2021
- Saunders Prize, Cornell Department of ORIE, 2021
- Omega Rho Inductee, Cornell Department of ORIE, 2020
- ELI Student Research Grant, Cornell College of Engineering, 2019
- National Merit Finalist, NMSC, 2017

WORK EXPERIENCE

McKinsey & Company — **Boston, MA**
Data Scientist II — *May 2022–present*

- Contribute to the digital transformation of a gas utility company by developing an optimization model for dispatch scheduling aimed at improving their current scheduling process, which is manual and relies heavily on schedulers' job knowledge.
- Organize and lead weekly schedule review and feedback sessions with stakeholders to enable successful roll-out to client's four largest service centers by job volume.

Data Scientist I — *Aug 2021–May 2022*

- Helped to develop an internal asset for workforce staffing optimization using a predict-then-optimize framework which has since been deployed in projects at 10+ clients.
- Leverage column generation to generate a daily production schedule for an aluminum manufacturer, helping to better utilize up to $40m worth of residual capacity in their production network.

Cornell University — **Ithaca, NY**
COVID-19 Reactivation Team — *Jul 2020–May 2021*

- Worked with a team of ORIE faculty and graduate students to schedule Cornell's F20 and S21 courses, exams, and in-person office hours around COVID-19 restrictions on social distancing in classrooms.
- Identified course conflicts via department feedback and historical co-enrollment data, allowing our scheduling optimization model to schedule conflicting courses at non-overlapping times.

- Helped to ensure that there were no instances of COVID-19 transmission in classroom settings during the 2020-2021 school year, despite more than 85% of Cornell's 20,000+ students returning to campus.

RESEARCH EXPERIENCE

Cornell University **Ithaca, NY**
Undergraduate Researcher, Algorithms *Jan 2021 - present*

- Working with ORIE Professor David Shmoys, seek to design a randomized algorithm for a combinatorial optimization problem called Odd Cut which improves on the current best $O(n^4)$ algorithm given by Padberg and Rao in 1984.
- Tailor a random contraction-style algorithm given by Nagele and Zenklusen in 2020 for the more general congruence-constrained minimum cut (CCMC) problem to odd-cut, a special case of CCMC with modulus 2, and prove a stronger bound on the success probability of the algorithm in this case.

ELI Student Research Grant Program **Ithaca, NY**
Undergraduate Researcher, Bikesharing *Jun 2019–Apr 2020*

- Implemented a discrete-event simulation for a dockless bikesharing system to estimate daily lost sales, a key component of customer satisfaction that is not tracked by bikesharing apps.
- Collected, cleaned, and reconstructed trips from gigabytes of raw bikeshare data to derive realistic simulation parameters.
- Worked with ORIE Professor Jamol Pender and one of his PhD students to assess the behavior of their proposed stochastic model for battery charging in bikesharing systems using simulation results (archived preprint).

Cornell University **Ithaca, NY**
Undergraduate Researcher, Queueing Theory *Oct 2018–Apr 2019*

- Worked with ORIE Professor Jamol Pender to evaluate the accuracy of WA-LES(α), a wait-time estimator which was offered as an improvement over conventional estimators used in hospitals, call centers, and other service systems.
- Used simulation to document the behavior of WA-LES(α) under finite queue sizes and asymmetric error functions, which better approximate real-world service systems, and found that this behavior deviated from a recent asymptotic theoretical result.
- Co-authored a paper which was published in the proceedings of the 2019 Winter Simulation Conference.

TEACHING EXPERIENCE

Cornell University **Ithaca, NY**
Teaching Assistant, "Data Science for All" *Jan 2020–May 2020*

- Facilitated lab sections aimed at giving an introduction to basic probability, Python programming, and data science topics to undergraduates from non-STEM backgrounds.
- Responded to student feedback on the difficulty of remote learning by doubling my weekly office hour commitments.

Cornell University **Ithaca, NY**
Teaching Assistant, "Engineering Applications of Operations Research" *Aug 2019–Dec 2019*

- Assisted with discussion sections, held biweekly office hours, and graded assignments for an introductory Operations Research class of roughly 90 first-year engineering students.
- Reviewed all course exam materials prior to test dates to gauge difficulty and catch potential errors.

PUBLICATIONS

[1] Aditya Shah, Anders Wikum, and Jamol Pender. Using simulation to study the last to enter service delay announcement in multiserver queues with abandonment. In *Proceedings of the Winter Simulation Conference*, WSC '19, page 2595–2605. IEEE Press, 2019.

SKILLS & INTERESTS

Languages/Technologies

- Proficient in..... Python (NumPy/Pandas/Matplotlib/Kedro), Java, OCaml, AMPL
- Familiar with..... R, Julia, SQL, LaTeX, Docker, Azure, AWS

Organizations: QuantumBlack, Cornell Data Science, INFORMS
Interests: Self-taught guitarist and bassist, novice skier, and racket sport enthusiast