Erik **Bertelli**

PhD Student in Industrial Engineering and Operations Research | UC Berkeley

209.777.5759
1201 Buena Vista Ave, Alameda, CA 94501
@ erikbertelli@berkeley.edu
linkedin.com/in/bertellierik
github.com/MaverickThought

I am a third year PhD student in the Industrial Engineering and Operations Research Department at UC Berkeley. My research is focused Inventory Control for multi-generational high-tech products with uncertain warranty obligations.

Education

2016-Present	PhD in Industrial Engineering and Operations Research | UC Berkeley
2013-2014	MS in Industrial Engineering and Operations Research | UC Berkeley
2010-2013	BS in Industrial Engineering and Operations Research with High Honors | UC Berkeley

Research Projects

Present – January 2017 | **Warranty Inventory Control | Prof Yano, IEOR Dept, UC Berkeley**
- Optimize timing of last time buy of small electronic devices for local technology company
- Balance production and inventory costs to satisfy unknown future warranty demand

Inventory Control

Present – January 2017 | **Operating Room Scheduling | Prof Yano, IEOR Dept, UC Berkeley**
- Extended previous OR Block Scheduling model to allow for general partial day assignments
- First formal optimization approach with partial day OR block scheduling and recovery bed capacity
- Presented results at invited session at POMS conference

AMPL | CPLEX | Python | Integer Programming

May 2014 – January 2014 | **Operating Room Scheduling | Prof Yano, IEOR Dept, UC Berkeley**
- Worked with Kaiser Permanente to develop a Mixed Integer Linear Program for OR scheduling
- Distributed OR schedules among specialties in order to minimize bed occupancy & nurse overtime
- Improved running time of MILP formulation in AMPL with new objective functions and constraints
- Presented results to my advisor and the IEOR department chair who then delivered to the client

AMPL | CPLEX | Integer Programming

December 2013 – May 2011 | **Image Segmentation with Network Graphs | Prof Hochbaum, IEOR Dept, UC Berkeley**
- Implemented a new network graph normalized-cut image segmentation algorithm using MATLAB
- Developed a benchmark and testing framework to objectively compare among methods
- Presented our findings in weekly research group meetings and defended my results
- Co-authored an academic paper summarizing our results that was recently published

MATLAB | Network Graphs

Professional Experience

May 2016 – July 2014 | **Business Consultant | Applied Predictive Technologies, San Francisco, CA**
- Analyzed business initiatives using test & control methodology that drove millions in client revenue
- Led day to day client relationships, trained software analysts, and presented results to management
- Managed over 30 data feeds across clients, personally owning daily data ETL processes
- Collaborated with Engineering teams to develop new product features in response to client needs

SQL | R

August 2013 – May 2013 | **Business Consultant Intern | Applied Predictive Technologies, San Francisco, CA**

- Analyzed menu cannibalization following the introduction of a new product at a fast food chain
- Designed business test & control strategies based on historical data to ensure statistical significance
- Built chain wide rollout projections based on test results and presented results to the client
- Set up a SQL database and APT cloud software instance for a new historical dataset for a new client

SQL

August 2012 – May 2012 | **Wafer Planning Intern | Xilinx, San Jose, CA**

- Planned weekly wafer starts for a family of Field Programmable Gate Arrays
- Developed centralized Excel dashboard to project the next year of weekly wafer starts
- Set up VBA-SQL interface to automatically updated dashboard with new data
- Retired ten manual Excel reports, saving other wafer planners over ten hours a week

SQL VBA

Skills

Programming : Python, MATLAB, R, VBA, C, AMPL, CPLEX
Optimization : Linear, Convex, Nonlinear, Mixed Integer, Network Graphs
Stochastic Processes : Queuing, Poisson Processes, Martingales, Brownian Motion
Industrial Engineering : Inventory Control, Quality Control, Facility Location

Awards

May 2017 IEOR Graduate Student Group Service Award | UC Berkeley IEOR Department
March 2017 Honorable Mention | National Science Foundation Graduate Research Fellowship Program
May 2014 Outstanding Graduate Student Instructor | UC Berkeley
May 2014 Outstanding Graduate Student Instructor | UC Berkeley IEOR Department
May 2013 Dean's Honors | UC Berkeley College of Engineering
May 2013 Graduated with High Honors | UC Berkeley
May 2011 Member of Tau Beta Pi, the Engineering Honor Society | UC Berkeley
August 2010 Regent's and Chancellors Scholar | UC Berkeley

Publications

- D. S. Hochbaum, C. Lu, and **E. Bertelli**. Evaluating Performance of Image Segmentation Criteria and Techniques. *EURO Journal on Computational Optimization*, May 2013, Volume 1, Issue 1-2, pp 155-180

Presentations

- **E Bertelli** and C Yano, Designing Flexible and Financially Prudent Operating Room Block Schedules, *POMS*, Healthcare Scheduling Track, May 5, 2017, Bellevue, WA