Valerie Y. Odeh Couvertier

HC 04 Box 42750 Aguadilla, Puerto Rico 00603
Phone: (787) 464-0513 • Email: valerie.odeh@upr.edu

Research Interest

M.S. student in Industrial Engineering specializing in the area of data analytics and machine learning. Interested in pursuing a Ph.D. in the Industrial Engineering (IE) field with particular focus on applying IE methodologies to research areas related to data mining, machine learning, and bioinformatics.

Education

May 2020 (Expected)
Master of Science in Industrial Engineering
University of Puerto Rico, Mayaguez
Advisor: Dr. Wandaliz Torres García
GPA: **4.00/4.00**

May 2018
Bachelor of Science in Industrial Engineering
University of Puerto Rico, Mayaguez
Major GPA: **4.00/4.00** GPA: **3.82/4.00,** *Magna Cum Laude*

Research Experience

Department of Industrial Engineering- University of Puerto Rico, Mayaguez
Advisor: Wandaliz Torres García
Socially Responsible Operations (SRO) Lab, Graduate Research Assistant (August 2018-Present)

- Developing an integrative computational pipeline using mathematical modeling and machine learning techniques that enables the characterization of CAR T-cell multi-omic profiles that are predictive of quality at early stages of the manufacturing process.
- Evaluating strategies to mitigate the impact of highly correlated variables and parameter tuning to the sensitivity of machine learning variable importance measures.
- Collaborating with Georgia Institute of Technology, University of Georgia, and University of Wisconsin-Madison.

Industry Experience

Techno Plastics Industries- Aguada, Puerto Rico
Capstone Project (August 2017-February 2018)

- Redesigned manufacturing area in order to improve product flow and eliminate WIP.
- **Reduced** WIP inventory by **98.65%** using one-piece flow configuration.
- Increased line production by **227.03%**.

UPRM Supply Warehouse- Mayaguez, Puerto Rico
Facilities Planning and Layout Project (January-June 2017)

- Designed alternative that reduced **distance traveled** by **68%.**
- Maximized space utilization by **50%.**

HP Inc.- Aguadilla, Puerto Rico
Work Measurement Project (January-May 2016)

- Performed time studies and provided time standards for 3D printing prototype line.
- Applied line balancing and process standardization techniques that reduced cycle time by **39%.**

Lilly del Caribe, Inc- Guayama, Puerto Rico
Engineering Co-op (August-December 2015)

- Elaborated **warehouse space capacity tool** to track space utilization, shipments, and receipts.
- Assisted in the Material's warehouse decommissioning strategy due to cease of operations.
- Planned movements, shipments, and disposition of **70%** of the materials stored in the warehouse.

Hewlett-Packard- Aguadilla, Puerto Rico
Intern Tech (June-August 2015)

- Conducted time studies and **line balancing** on production line to determine capacity and **resource utilization**.
- Improved ergonomic design of production lines and operator's tasks.
- Assigned department locations based on relationship priorities.
- **Achieved** an estimated **$360,000 annual savings** in salaries and benefits by correctly establishing the number of employees needed to meet demand.

Hewlett-Packard- Aguadilla, Puerto Rico
Work System Design Project (January-May 2015)

- Analyzed the process through the use of engineering tools (RULA, NIOSH) and reduced ergonomic risks by **50%.**

Teaching Experience

University of Puerto Rico, Mayaguez
Teaching Assistant - Course: ININ 4040: Facilities Planning and Layout Laboratory (August 2017-December 2018)

- Developed and conducted laboratory class for 40+ students with the use of design software such as **SketchUp** and **AutoCAD**.
- Graded undergraduate student's laboratory reports and exams.
- Authored the Facilities Planning and Layout AutoCAD laboratory manual.

Mentoring Experience

University of Puerto Rico, Mayaguez
CMaT RET Program (June 2019)

- Mentored and facilitated the professional development of a high school teacher in the area of data analytics and bioinformatics with application to research in CAR T-cell manufacturing.

University of Puerto Rico, Mayaguez
Mechanical and Industrial Engineering Mentoring Student (August 2013-May 2014)

- Mentored and tutored 1st year undergraduate students to help them transition and adjust to the university lifestyle.
- Participated in conducting the course UNIV 3005 (Introduction to University Life), mandatory for all undergraduate students.

Awards and Honors

- **Frederick W. Taylor Award** – Awarded to the best Industrial Engineering student — July 2018
- **Juan A. Gorbea Award** – Outstanding Industrial Engineering student — May 2018
- **Industrial Engineering Honor Student Award** — May 2018
- **Alpha Pi Mu Honor Society** — 2015
- **Golden Key Honor Society** — 2014
- **Industrial Engineering Honor Student Award** — May 2013

Presentations at Conferences

Valerie Odeh (presenter), Nathan Dwarshuis, Maxwell Colonna, Danning Huang, Arthur Edison, Facundo Fernández, Krishnendu Roy and Wandaliz Torres. Computational Modeling Using Multi-omics to Extract Early Predictive Signatures of T-cells Quality. XXIII Sigma Xi Poster Day, University of Puerto Rico, Mayaguez, PR, April 25, 2019.

Valerie Odeh (presenter), Nathan Dwarshuis, Maxwell Colonna, Danning Huang, Arthur Edison, Facundo Fernández, Krishnendu Roy and Wandaliz Torres. Computational Modeling Using Multi-omics to Extract Early Predictive Signatures of T-cells Quality. NIH RISE Symposium, University of Puerto Rico- School of Medicine, San Juan, PR, May 3, 2019.

Valerie Odeh (presenter), Nathan Dwarshuis, Maxwell Colonna, Danning Huang, Arthur Edison, Facundo Fernández, Krishnendu Roy and Wandaliz Torres. Computational Modeling Using Multi-omics to Extract Early Predictive Signatures of T-cells Quality. PR-LSAMP, University of Puerto Rico, Mayaguez, PR, May 4, 2019.

Valerie Odeh (presenter), Nathan Dwarshuis, Maxwell Colonna, Danning Huang, Arthur Edison, Facundo Fernández, Krishnendu Roy and Wandaliz Torres. Computational Modeling Using Multi-omics to Extract Early Predictive Signatures of T-cells Quality. Quest University 2019, Río Grande, PR, June 1, 2019.

Valerie Odeh (presenter), Nathan Dwarshuis, Maxwell Colonna, Danning Huang, Arthur Edison, Facundo Fernández, Krishnendu Roy and Wandaliz Torres. Computational Modeling Using Multi-omics to Extract Early Predictive Signatures of T-cells Quality. CMaT Annual Retreat, Athens, GA, August 6-8, 2019.

Valerie Odeh (presenter), Nathan Dwarshuis (presenter), Maxwell Colonna (presenter), Danning Huang, Arthur Edison, Facundo Fernández, Krishnendu Roy and Wandaliz Torres. Assessment and Characterization of CAR T-cells. CMaT Annual Retreat, Athens, GA, August 6-8, 2019

Relevant Courses

Graduate: Sequencing and Scheduling of Resources, Knowledge Discovery in Engineering Multivariate Data, Quality Control Systems, Computing with R, Advanced Industrial Experimentation, Advanced Topics in Bioengineering, Advanced Production Control, Lean Six Sigma Methodology

Undergraduate: Probability and Statistics for Engineers, Applied Industrial Statistics, Engineering Economic Analysis, Industrial Safety, Computer-based Information Systems, Work Measurement, Systems Simulation with Digital Computers, Deterministic Models in Operations Research, Design and Analysis of Engineering Experiments, Work Systems Design, Facilities Layout and Design, Real Time Process Control, Statistical Quality Control, Accounting for Engineers, Cost Analysis and Control, Systems Production Inventory Management

Technical Skills

Knowledge in computer applications: Microsoft Office, AutoCAD, FactoryCAD, MathCAD, SketchUp, MySQL, HTML, PHP, Simio, R Studio, LaTeX, and MiniTab.

Languages: Proficient in English and Spanish.

Trainings and Certifications

Certifications:

- **Lean Six Sigma Yellow Belt Certified (SSYBC)™,** (February 2015)

BioTalents supported by Amgen: Training in Biotechnology Manufacturing (October 2014)

- Training in the different components of a biomanufacturing process.

References

Dr. Wandaliz Torres García; Assistant Professor of Industrial Engineering; University of Puerto Rico – Mayaguez Room II-217B; email: wandaliz.torres@upr.edu

Dr. Sonia Bartolomei Suárez; Professor of Industrial Engineering; University of Puerto Rico – Mayaguez Room II-212; email: sonia.bartolomei@upr.edu

Dr. Saylisse Dávila Padilla; Assistant Professor of Industrial Engineering; University of Puerto Rico – Mayaguez Room II-218A; email: saylisse.davila@upr.edu

Dr. Betzabé Rodríguez Álamo; Professor of Industrial Engineering; University of Puerto Rico – Mayaguez Room II-217A; email: betzabe.rodriguez@upr.edu