

# ANDRES CASTILLO

Professional engineer with a MSc in Engineering Management and 3+ years of operations research, business analysis and process optimization experience. Creative and passionate problem-solver who thinks big and is motivated in developing new approaches to optimize business operations.

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## PROFESSIONAL SUMMARY

- 3 years of experience using Operations Research and Optimization techniques to solve complex operational problems.
- Professional experience managing multiple projects in the telecommunication sector using the PMI best practices.
- Developed operational solutions for network optimization, production planning, and inventory management.
- Solid theoretical foundation in decision analysis for maintenance, system reliability, and asset management.
- Professional experience in liaising with project clients and stakeholders to address their needs and concerns.
- Demonstrated leadership by advocating on behalf of 100+ engineering graduate students as a VP Academic for 1 year.
- High proficiency in SQL, Data Warehouse, Tableau, Power BI, MS Excel, MS Project, and MS Visio.
- Quick learner, strong team player, and willing to take initiative and responsibilities.



## PROFESSIONAL EXPERIENCE

### Research Assistant – University of Alberta, Edmonton

Mar/2018 – Jul/2018

Research assistant responsible for providing research, data analysis, and data modeling using Operations Research and Data Sciences techniques to develop business solutions that effectively optimize the operational process.

- Developed computational models using operations research techniques to solve complex operational problems.
- Explored ways in which operations research and optimization can enable new solutions to meet operational challenges.
- Analyzed results using statistical techniques and generated robust reports to support analytic insights of data.
- Prepared reports and presentations summarizing results, identifying key insights, and outlining recommendations.
- Provided coaching and support to team members both in a project setting and within the research practice overall.

### Graduate Research Assistant – University of Alberta, Edmonton

Sept/2015 – Feb/2018

Conducted applied research to support the cost optimization and availability analysis of large-scale optical transport networks.

- Developed LP/MIP computational models for transport network optimization achieving savings of up to 21% in capacity investment using optimization tools as AMPL, IBM ILOG CPLEX, and Gurobi.
- Developed mathematical optimization models for large-scale optimization problems including transportation, network design, inventory management, warehouse management, human resources scheduling, among others.
- Analyzed large-volume complex data sets and built statistical models to obtain business insights and drive improvement.
- Delivered technical presentations to all levels of the academic institution clearly and concisely.
- Mentored 90+ graduate and undergraduate students as a Teacher Assistant.

### Project Engineer – Itterra Telecommunication, Venezuela

Feb/2013 – Nov/2013

Designed and provided support for the implementation/maintenance of various telecommunication and networking projects. Realized projects varied from \$10k to \$1.0m and were realized in different countries of Latin America.

- Planned and implemented structured cabling projects, wireless networks projects, and security systems projects.
- Worked independently and led 2-4 network technicians in daily installation and maintenance projects.
- Conducted site inspections, prepared cost estimates and technical reports, and managed resources.
- Defined initiatives scopes, milestones, project schedule, and deliverables with the Senior Project Manager.
- Liaised with clients and stakeholders to address their needs/comments and guide the project through final approval.
- Coordinated procurement of project construction materials and ensuring timely delivery as well as accuracy of purchase.

Installed and administered LAN and WAN networks based on Cisco & Ubiquiti network wireless technologies. Operated in a fast-paced, on-call, and challenging 24x7 environment.

- Provides day-to-day network monitoring and support of three major cities to identify and remediate any performance or capacity issue following strict Service Level Agreement (SLA) based on ITIL methodology.
- Tested and installed microwave point-to-point and point to multi-point links based on Ubiquiti networks systems.



## PROJECTS

- Production Planning Optimization in the Automobile Industry (2016). Applied integer linear programming models to provide the daily production plan that would maximize the vehicle assembly plant's daily profit.
- Production and Inventory Optimization in a Textile Company (2016). Applied integer linear programming to minimize the total cost of production, storage, and fixed costs (assuming delays in material delivery).
- Transportation Planning Optimization (2016). Applied network modeling and graph theory to determine the maximum products that can be transported and minimizing the cost of it.
- Collaborated with Canadian National Railway (CN) on the development of a mathematical model for fuel consumption prediction on double-stack freight trains (2016).
- Intellectual property commercialization project of a new communication network design (2017). The project included trademark and patent strategy, market report, economic analysis, risk analysis, and commercialization strategy.
- Provided asset support for the design and installation of a new telecommunication cabling system for the main data center of Venezuela's fifth-largest bank. The project included 1,300 telecommunication copper connections of category 7a S/FTP Siemon cables and more than 700 fiber optic OM4 cables.



## EDUCATION

**MSc. in Engineering Management** – University of Alberta

Specialization: Operations Research and Process Optimization

**BSc. in Telecommunication Engineering** – Universidad Rafael Urdaneta (Venezuela)

## RELEVANT COURSES

- Engineering Project Management.
- Operations Research and Optimization.
- Reliability Engineering and Risk Analysis.
- Maintenance and Enterprise Asset Management.
- Product Commercialization and Business Analysis.

## CERTIFICATIONS

- Microsoft Power BI Professional.
- Tableau for Business Intelligence.
- Microsoft SQL Data Warehouse Professional.
- Microsoft Certified Professional – License: G882-6640.
- Cisco Certified Network Associate – 432774170724FMCH.



## ADDITIONAL INFORMATION

### Software

- Proficient with software platforms: MS Office (Excel, Word, Power Point), MS SQL Server, SSAS, SSIS, MS Project, MS Visio, MS Power BI, Tableau, AMPL, Gurobi, RStudio, and Matlab.

### Professional Association

- APEGA Engineer-in-Training.

### Community involvement / Extracurricular activities

- VP Academic for the Mechanical Engineering Graduate Students' Association (1 year).
- VP Communications & Logistics for the eighth annual Faculty of Engineering Graduate Research Symposium (9 months).

### Honors & Awards

- Best GPA from the University Rafael Urdaneta Promotion XI of Telecommunication Engineers.
- Placed on Dean's Honor List for high academic achievement in University Rafael Urdaneta.