

# ALFREDO GARCIA

## Industrial Chemical Engineer | Project Manager | Maintenance Supervisor

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### SUMMARY

Industrial Chemical Engineer with experience in industrial maintenance, water treatment, electrical installation supervision, and operation of heating and cooling equipment such as cooling towers, chillers, furnaces, and boilers. He specializes in project management, emergency response, physicochemical water analysis, and WWTP operation. He has solid knowledge in developing preventive and predictive maintenance plans, root cause analysis (RCA), and continuous improvement projects to reduce downtime and operating costs. He also has the ability to lead teams, develop maintenance strategies, and ensure regulatory and methodological compliance (STPS, SEMARNAT, ISO, OSHA, 5S, etc.).

### SKILLS AND COMPETENCES

**Data Analysis:** Python (Pandas, Numpy, Scikit-learn), SQL, Power BI, MS Excel (Advanced: Pivot Tables, Formulas, Macros).

**Water Treatment:** Boilers, Cooling Towers, Chillers, Reverse Osmosis, Biological Reactors, DAF, Demineralization Units.

**Physicochemical Analysis:** Wide range of tests (pH, COD, Hardness, Silica, Phosphates, etc.) using titrimetric and colorimetric methods.

**Methodologies and Standards:** Lean Manufacturing, 5S, ISO 9001, NOMs (SEMARNAT, SSA), ASTM, Preventive/Corrective/Predictive Maintenance, STAR.

**Industrial Safety:** STPS, OSHA, NOMs.

**Management:** Team Leadership, Project Management (Agile), Risk Analysis, Budgeting.

**Languages:** Spanish (Native), English (B2 - Harmon Hall Certificate).

### JOB EXPERIENCE

Grupo Truper, Jilotepec, State of Mexico

may 2023 – currently

**Position: Project Leader | Sales Supervisor | Maintenance Technician**

With accelerated internal progression, I have held the following roles:

Project Leader:

- Implemented the use of Power BI for data analysis and visualization, sharing real-time dashboards with stakeholders to streamline decision-making.
- Migrated reporting databases from Excel to a SQL server and used Python (Pandas, Numpy, Matplotlib, Scikit-learn) to cleanse, update, and create predictive models for effective maintenance plans.

Sales Supervisor:

- Dramatically reduced reporting time through automation in Excel with pivot tables and advanced formulas: daily reports from 3 hours to 40 minutes, weekly reports from 2 hours to 30 minutes, and monthly reports from 1.5 weeks to 1 day.
- I designed an Excel format that, based on flow measurements and physicochemical parameters, calculated optimal chemical dosages, allowing for annual consumption projections and optimized inventory management.

- I implemented a preventive maintenance program for dosing pumps and a routine siphoning system in towers and chillers based on Total Suspended Solids (TSS) monitoring, reducing water waste and unscheduled downtime.

Service Technician:

- I optimized operational routes and processes, achieving significant reductions in execution times:
- Sample collection in cooling towers and chillers: from 3 hours to 40 minutes.
- On-site furnace analysis: from 3 hours to 1.5 hours.
- Regeneration of demineralization units: from 4 hours to just over 2 hours.
- Chemical shock dosing: from 4 hours to 2 hours.
- I managed the monitoring and physicochemical analysis of more than 60 pieces of equipment, including boilers, cooling towers, chillers, induction furnaces, and demineralization units.

Grupo Truper, Jilotepec, State of Mexico

**february 2022 – april 2023**

**Position: Occupational Health and Safety Supervisor**

Responsible for supervising high-risk activities, including work at heights and the use of lifting equipment, ensuring strict compliance with safety regulations. Some of the activities I performed included:

- Supervised work at heights and the use of lifting platforms, achieving 100% compliance with permits and safety protocols.
- I implemented brief risk briefings (5 minutes) before each shift, reducing minor incidents by 30%.
- Prepared and verified daily risk reports, strengthening the culture of prevention and regulatory compliance.

MODASTAGE, Jilotepec, State of Mexico

**july 2018 – february 2022**

**Position: Wastewater Treatment and Maintenance Supervisor**

The tasks I performed in this position included:

- Implemented a preventive maintenance program that reduced equipment downtime by 20%.
- Supervised the operation of the Wastewater Treatment Plant, ensuring regulatory compliance with NOM-127-SSA1-1994 and NOM-002-SEMARNAT-1996.
- Managed inventory and contacted suppliers for the purchase of supplies and chemicals.

AIReTech, Tepeji, Hidalgo

**october 2017 – february 2018**

**Position: Production Assistant (Internship)**

The tasks I performed in this position included:

- I implemented a preventive maintenance program that reduced equipment downtime by 20%.
- I supervised the operation of the Wastewater Treatment Plant, ensuring regulatory compliance with NOM-127-SSA1-1994 and NOM-002-SEMARNAT-1996.
- I managed inventory and contacted suppliers for the purchase of supplies and chemicals.
- I applied continuous improvement methodologies such as Lean Manufacturing and 5S to optimize the flow of supplies.

CIATEQ, Toluca, State of Mexico

**february 2017 – july 2017**

**Position: R&D Intern (Dual Education System)**

I contributed to innovation in the development of polyurethane foam glove coatings, creating functional prototypes for dielectric gloves that satisfactorily met applicable technical standards. This included:

- Developing three polyurethane (PU) formulations for dielectric gloves that met ASTM D120-14a, validating their mechanical and electrical properties.

- Preparing technical reports and progress presentations for project leaders and stakeholders.

GISA, Toluca, State of Mexico

**october 2016 – february 2017**

**Position: Quality Intern (Dual Education System)**

I actively collaborated in the quality department, verifying and ensuring the excellence of manufactured gloves. I performed advanced quality testing and prepared reports that contributed to the continuous improvement of prototypes and processes, thereby:

- Reducing rework by 18% by identifying critical design flaws through statistical analysis.
- I implemented a traceability system for imported products, reducing rejections by 15%.
- I trained more than 10 operators in Good Laboratory Practices (GLP) and ISO 9001 standards.

**EDUCATION**

TecNM, Jilotepec, State of Mexico

**september 2013 – june 2018**

**Chemical Engineering – Engineering**

TecNM, Jilotepec, State of Mexico

**september 2016 – june 2018**

**Sustainable Chemical Processes – Specialty**

Harmon Hall, Tlalnepantla, State of Mexico

**april 2020 – june 2020**

**TKT (Teaching Knowledge Test) – Certification**

Harmon Hall, Tlalnepantla, State of Mexico

**september 2018 – march 2020**

**English (Level B2) – Certificate**

**FEATURED COURSES AND CERTIFICATIONS**

Automation of Cybersecurity Tasks with Python

Cybersecurity (Coursera Specialization)

Cybersecurity Essentials (CISCO)

Cybersecurity Specialization – Coursera (2024)

Data Analysis with R Programming (Coursera)

Google Cloud Foundations: Data, ML & AI; Networking & Security (Google Cloud)

Google Cloud: Data, ML & AI / Networking & Security

Google Data Analytics Specialization – Coursera (2024)

Google Digital Marketing and E-Commerce Specialization – Coursera (2024)

Linux & SQL Tools (Coursera)

More in:

