

# Pedro Alvarez Guzmán

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## Skills

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### Programming Languages

- C/C++.
- Python - Python/Django.
- R/RMarkdown w/L<sup>A</sup>T<sub>E</sub>X.
- SQL
- Basic HTML.
- Novice level ReactJs.

### General Knowledge

- Microsoft Office(Excel,PowerPoint, Word,Teams).
- Power BI and Tableau
- L<sup>A</sup>T<sub>E</sub>X(Beamer Presentations, Reports, etc).
- Project Management Software(Jira, Slack, Asana).
- Google Workspace(Calendar, Gmail, Meet, Docs).
- Azure(Containers, Servers, Virtual Machines).
- SQL Servers/ Data Bases.
- IBM (IBM Watson for ML models).
- Statistical Reporting.
- Agile Methodologies(Scrum)

### Data Skills

- Data Mining.
- Spatial Data Analysis.
- Spatial Modelling (Areal, Points and Geo-spatial Data).
- Integrated nested Laplace approximation(INLA) models.
- Bayesian Models.
- Data Visualization (Graphs and Maps).
- Time Series Forecasting.
- Machine Learning.
- Automatized Reports.
- Shiny Apps.

### General Skills

- Fluent English.
- Basic French and Italian.
- Multitasking.
- Hard-Working.
- Leadership.
- Team-Work.
- Critical Thinking.
- Adaptability.
- Fast Learning
- Responsible.
- Project Management.

## Working Experience

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### Datlas Internship

June 2022 – Present

- Internship of Solutions of Data Analytics.
- Business Intelligence analysis.
- Analysis of georeferenced data.
- Automation of processes in R.
- Neighborhood analysis.
- Data extraction and analysis from INEGI, DENUE, and other government websites.
- SQL queries.
- Present reports to clients.

### Freelancer

November 2022

- Developed a Sales projections report presentation for Mindful Agency company.
- TimeSeries Forecasting using ARIMA Models.
- Created KPI's/ insights.
- Calculated the profit and projected it for 2023.
- Shiny app (dashboard) for visualize indicators and projections.

### Epicor Internship

February 2022 – June 2022

- QA (Quality Assurance Analyst) internship at Epicor Software Corporation.
- Multicultural team(USA and India)
- Build, edit and update test cases based on approved requests.
- Use a Content Management System to create, edit and test pages, forms and functionalities.
- Execute SQL lines to search from the database and understanding the SQL tables.

## Projects

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### Inventory and Sales System for a Car Agency

November 2021

- Terminal app implemented in C++.
- Used C++ concepts to show in terminal the data of each client and car in stock by input of the user.
- Added payment records and discounts.
- Every record is transcribed to a .txt file.

### Insurance Quote

November 2021

- Developed using **Excel/VBA** macros.
- From mortality table calculated in class this quote asks for the age, if the client smokes to calculate actuarial age.
- Asks what kind of product the client wants (annualities or insurances).
- Calculates how much the client will pay.

### Sampling Calculator

March 2022

- Developed a **RShiny** Web App(in **R**).
- Calculates/Estimates the population mean, total of the population, population proportion, and selection of the sample.
- Given certain data it estimates the mentioned above.
- If you don't have a certain data, it calculates it for you so it can continue with the estimation.
- [https://pedroalvarezgmn.shinyapps.io/calculadora\\_MAS/?\\_ga=2.247521799.1843924875.1651636095-1423880638.1651636095](https://pedroalvarezgmn.shinyapps.io/calculadora_MAS/?_ga=2.247521799.1843924875.1651636095-1423880638.1651636095)
- Stored in the shinyapp server.

### Web Development

October 2022 – Present

- Generating ShinyApps and Quarto Reports in R.
- Publish them in a private server.
- Add those reports and apps to a web page.
- Web page using Django framework of Python and ReactJs.
- User LogIn and LogOut to visualize their own reports/apps.
- Adding some css elements.
- Adding 3D elements with ReactJs.

## Achievements

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### Director of Administration and Finance

April 2020- August 2020

- Received that role in my team for the Tiger Tank competition (UANL version of the Shark Tank program).

### Optic Industries

December 2020

- Consolidated my own company with my teammates.
- I'm in charge of the finances and accounting of the company

## Extracurriculars

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### Photonics Research Team Member

August 2019 – Present

- Writing research papers related with photonics and optic fibers.
- Contributing with math calculus, data analysis and implementing the experiments.

### Coach

August 2016 – Present

- Coaching kids American Football the position of "Defensive Back".

### Coding

January 2019 – Present

- Watching tutorials and courses to learn Python and R for finance applications.
- Learning and using  $\LaTeX$  to make more formal files (Replacing Microsoft Word and Power Point presentations.)

### Biostatistics/Bioinformatics Research

March 2022 – Present

- Helping with some data mining (with R) on COVID databases.
- Developing statistical models for spatial data (areal, point patterns, geostatistical) with R.
- Bayesian Models in R
- Data Visualization, interactive maps with predicted areas.
- RMarkdown statistical reports (moving to Quarto).

## Education

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### Universidad Autónoma de Nuevo León

August 2019 – December 2023

*Facultad de Ciencias Físico-Matemáticas*

Bachelor in Actuarial Science

Related Coursework and Skills:

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|--|---|----------------------|
| ○ Basic and Advanced Financial Mathematics | ○ Calculus I (Differential), II (Integral) and III (Multi-variable) | ○ Python)            |
| ○ Basic and Advanced Probability           | ○ Actuarial Calculus  | ○ Accounting         |
| ○ Inferential Statistics                   | ○ Linear Algebra  | ○ Investment Funds   |
| ○ Economy                                  | ○ Programming I (C), and II (C++,                                   | ○ Data Mining with R |
| ○ Basic and Advanced Data Analy-           |   | ○ Demography         |