

# Alejandro Batres

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## EDUCATION

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- **New York University Tandon School of Engineering** Brooklyn, NY  
*Bachelor of Science in Mathematics; Minor in Computer Science* *Aug 2018 - May 2022*
- **Relevant Coursework:** Object Oriented Programming, Data Structures, Analysis of Algorithms, Machine Learning, Databases, Linear Algebra, Applied Probability, Applied Statistics, Numerical Analysis, Math Modeling

## SKILLS SUMMARY

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- **Languages:** Python, C++, C, SQL, Javascript/Typescript.
- **Frameworks:** React, React Native, Next.js, PyTorch, Scikit, Numpy, Pandas, Matplotlib/Seaborn, OpenCV.
- **Technologies:** Vim, Tmux, Visual Studio Code, XCode, Linux/Unix Command Line, Jupyter Notebook, Git/Github.

## EXPERIENCE

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- **Allevia** Remote  
*Application Development Intern* *Aug 2021 - Jan 2022*
  - Implemented an interactive user-faced mobile application using the React Native for deployment on both IOS and Android with a concentration on accessibility and ease of use.
  - Optimized a relational model and data pipeline for the collection and modeling of user input utilizing AWS S3 for secured storage of user data.
- **The Coding School** Montclair, NJ  
*Computer Science Tutor* *Sep 2022 - Present*
  - Design and assist students with projects in Python and Java to develop students' skill programming ability.
  - Conduct lessons to groups of students in Python and Scratch to provide an introduction to coding languages.
- **Montclair Tutoring** Montclair, NJ  
*Mathematics and Science Tutor* *Aug 2018 - Present*
  - Instruct students of all ages (K-12, adults) in elementary mathematics, algebra, calculus, statistics, chemistry and physics. Provide test preparation for SSHAT, ISEE, SAT, ACT, ASVAB, Praxis, GED.
- **Batres Creative Services** Union City, NJ  
*Production Intern* *May 2015 - Aug 2019*
  - Developed a set of web applications used internally that centralized current and historical job ticket information, as well as organized assets stored in a local database.
  - Performed rapid prototyping of websites with various levels of functionality for the purpose of client feedback and project iteration. Using HTML/CSS/Javascript and React.
  - Provided technical work on the construction of a television studio by connecting a software interface to several lights, displays, audio and visual equipment. Provided maintenance to said equipment, as well as produced content for clients as well as acting as co-director on several productions.

## PROJECTS

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- **Point A to Point B**
  - Analyzed survey data from NYU students to create identify the best way to subsidize travel for commuters.
  - Collected data on Google Forms and analyzed in Python to discover data trends. (2022)
- **Airline Reservation System (Databases Final Project)**
  - Model airline reservation system for users and staff to create and book flights and track tickets.
  - Utilized Python Flask and used SQL for queries on a mySQL database. (2022)
- **Wildfire Severity Classifier (Machine Learning Final Project)**
  - Supervised learning model for classification of wildfire severity based on the burn level of surrounding vegetation.
  - Created a logistic regression model, support vector machine, and neural network from scratch in Python.
  - The most accurate model used a neural net with a ReLU activation function, giving an accuracy of about 82%. (2020)
- **School Scheduling Application**
  - Created a SAT solver in a command-line application for scheduling students into classes based on their prospective schedules by using conflicts in potential schedules to find an optimized solution.
  - Utilized the Google OR-Tools CP-Model in Python. (2019)
- **Weather Applet**
  - Created from scratch a web app that provides the current temperature and forecast for a number of cities in the U.S.
  - Utilized a weather API for accurate forecasting in React JS. (2019)