NICOLE BIROVA

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# EDUCATION

**Northwestern University,** Evanston, IL Anticipated June 2024

*Bachelor of Arts* | *Major*: **Data Science** | *Minor*: **Computer Science**

**Major GPA: 4.00/4.00** | Dean’s List

**Redmond High School,** Redmond, WA June 2020

GPA: 3.96/4.00 | ACT: 36/36 | National Merit (PSAT) quarterfinalist

# TECHNICAL SKILLS

**Programming Languages:** Python, Racket, R, SQL, VBA, HTML, DSSL2

**Software/IDE Experience:** VS Code, GitHub, Jupyter, AWS, Pandas, IDLE, MS Office, MS Excel, PowerBI, Power Automate

# WORK EXPERIENCE

**Pricing & Analytics Intern, *T-Mobile,*** Bellevue, WA June 2022 – Sep 2022

* Performed in-depth CLV and NPV analysis in business casing to support T-Mobile For Business teams
* Proactively contributed to executive-level strategy decisions by introducing competitive analysis that increased net activations
* Spearheaded competitive intelligence in the B2B sector by identifying correlation between port ratios and competitive insights including turnover ratios between telecommunication companies and promotional richness

**Research Assistant & Peer Mentor, *Northwestern University*,** Evanston, IL Jan 2021 – Present

* Developed complex mathematical proofs for Generalized Stirling Numbers and Stirling Numbers of the 2nd kind alongside Professor Michael Maltenfort
* Mentored groups of 10-12 Computer Science students in both introductory and intermediate computer science courses

**Data Science Team Associate, *SportsBiz,*** New York City, NYNov 2021 – June 2022

* Engineered a complete transition of the company's plan into a viable software solution of prescriptive and predictive analysis
* Designed new UX/UI interactive web solutions and standardized data modeling to benefit MVP for Fortune 50 companies

**Data Analyst Intern, *Alimus*,** Evanston, IL Sep 2021 – Dec 2021

* Analyzed BCBS data and created an Excel dashboard to develop success metrics using product and service telemetry systems

# SELECTED PROJECTS

## Data Science: T-Mobile Competitive Intelligence Completed Sep 2022

## Derived new competitive insights through plotting, correlation and linear regression modeling in R, SQL and Excel

## Leveraged analytical skills to assist in Apple’s NPI (new product integration) launch leading to a 38% lift in base CLV

## Computer Science: Trip Planner Completed June 2022

* Designed a trip planner for a given map entry using graph representations, search trees, least-cost paths, and disjoint-set structures
* Applied Djikstra’s algorithm, dictionaries, hash tables, single-source shortest paths, priority queues and binary heaps

## Data Science: SportsBiz Solutions Completed May 2022

* Manipulated data using Pandas, Git and AWS to build an AI model including UX/UI design and computer vision analysis
* Technologized company’s research to build predictive models, conduct market research and usable consumer websites

## Data Science: Alimus Data Completed Dec 2021

## Assembled exploratory data analysis of numerous data visualizations using R

* Utilized ggplot2 and dplyr to clean data and build extensive hypothesis and A/B testing

# COURSE HIGHLIGHTS

**Computer Science:** Data Structures & Algorithms, Mathematical Foundations of CS, Introduction to AI, Data Management & Information Processing, Introduction to Computer Programming (Python & C)

**Data Science:** Introduction to Statistics, Series and Multiple Integrals, Data Structures and Algorithms for DS

**Mathematics:** Linear Algebra, Multivariable Calculus, Sequences & Series, Foundations of Higher Mathematics

# OTHER ACTIVITIES

**NU Women in Computing**, *Member*, Evanston, IL Sept 2021 – Present

**NU Women in Business,** *Member*, Evanston, IL Sept 2020 - Present

**MIT LaunchX Pre-College Program**, *Student*, Boston, MA June – August 2019

# ADDITIONAL

**Selected Achievements:** NU Dean’s List (2022, 2021, 2020), Gold & Silver Awards (Girl Scouts 2020, 2018), AT&T Business Pitch Competition 3rd (2020), Top 9% at International Career Development Conference (2019), Congressional Art Award (2019)

**Languages:** English, Spanish, Bulgarian

**Citizenship:** US Citizen