DAVID PETRE

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EDUCATION

The University of Chicago **Chicago, IL**

Bachelor of Science in Computer Science, Bachelor of Arts in Economics *Expected, June 2025*

- Honors: Chicago Public Schools Full Tuition Merit Scholarship | National Merit Scholar | Illinois State Scholar.
- Relevant Coursework: Theory of Algorithms | Computer Systems | Database Systems and Design | Discrete Mathematics | Linear Algebra | Proofs in Analysis | Statistics: Models and Methods | Economic Analysis | Investments | Financial Accounting
- Extracurriculars: Philosophy Club | Grappling Club | CompileHer | Chicago Maroon | UC Socially Responsible Investment Group

Walter Payton College Prep **Chicago, IL**

High School Diploma *Aug 2017 – May 2021*

- GPA: 3.9 /4.00 | SAT: 1550 / 1600 (800 Math, 750 EBRW)

PROFESSIONAL EXPERIENCE

Center for Spatial Data Science | Anselin Lab – *UChicago research lab focused on the development of GeoDa.* **Chicago, IL**

Software Engineer Intern *May 2023 – September 2023*

- Collaborated with Professor Anselin and a Graduate Developer to modernize the codebase of Prof. Anselin's mapping and spatial analysis software GeoDa. Submitted over 10 zipfiles and over 2,000 lines of JavaScript / Python code as part of my work.
- Updated online resources surrounding the GeoDa ecosystem, such as the companion website and documentation.

CNC Designs – *Small Business focused on Insert manufacturing.* **Chicago, IL**

Employee *August 2021 – Present*

- Cofounded a manufacturing firm that manufactures effective table saw inserts for mainstream lines such as DeWalt, Bosch, and SKIL.
- Personally manufactured, polished, and quality tested over 4,000 table saw inserts. Went to the shop during my school breaks and on weekends.
- Conducted extensive market research into both our competitors and the structure of the table saw market. As a result, I personally designed two inserts using AutoCAD for the SKIL and Bosch lines that have both generated over $20,000 in revenue.

University of Chicago Department of Computer Science **Chicago, IL**

Grader *September 2023 – Present*

- Participate in the code review of over 20 graduate-level students studying python programming at the University of Chicago.
- Provide both feedback and update the code of the students to reflect best practices when programming.

Momentus Capital – *Private Impact Investing Firm* **Chicago, IL**

Market Research Intern *January 2023 – March 2023*

- Researched over 200 small businesses across the United States to properly target them for low-interest loans according to both profitability and ESG metrics.
- Wrote a python script that automated the procedure for both me and my groupmates to write our deliverable faster.

TECHNICAL PROJECTS

DavidShell – *Implementation of a shell written in C* *May 2022*

- For my Systems Programming course, I built a shell that can take commands from the user, parse those commands, and execute them.
- The end project utilized multithreading to improve performance and was composed of over 600 lines of C code.

DaDB – *Database Management system written in Rust* *May 2023*

- For my Database Systems course, I wrote a database management system in Rust that was composed of over 700 lines of multithreaded code.
- Implemented queries based on operators found in Relational Algebra (Such as Join, Group By, and Aggregate)
- Designed a solution to serialize data to disk and to retrieve that data as personally designed database pages.

Popsort – *Homemade sorting algorithm written in Python* *September 2023*

- Designed and wrote a sorting algorithm that models a list as a population and performs 'life-cycle' operations upon it analogous to birth and death in order to successfully sort it.

SKILLS & INTERESTS

Languages: English – Fluent | Romanian – Native Speaker | Mandarin Chinese – Working knowledge | French – Elementary command
Programming Skills: Proficient: Python | Rust | C | Javascript / Typescript | HTML / CSS. Working Knowledge: Haskell, Golang, R, C++
Programming Frameworks: Proficient: React, NextJs.13, TailwindCSS, NumPy, Pandas Working Knowledge: Tidyverse, NixOs
Interests/Hobbies: Brazilian Jiu Jitsu, Kickboxing, Reading, Camus, Robotics, Starcraft 2.