

# James Harbour

## Resume

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*"Find what you love and let it kill you" — Charles Bukowski*

I am a second year mathematics and computer science double major at the University of Virginia with a comprehensive undergraduate and graduate-level mathematics background. My primary interests are in operator algebras and noncommutative geometry.

Following my PhD, I plan to pivot towards industry with a focus on quantitative finance and algorithmic trading.

## Mathematics Experience

- **pre - UVA** Through concurrent dual enrollment at the University of South Florida during high school, I completed the majority of courses in a mathematics major as well as a variety of graduate-level courses.
- **UVA - 1st Year** Took the same mathematics course load as UVA's 1st year mathematics PhD students (plus more courses). Passed the analysis (real & complex) PhD qualifying exams.
- **UVA - 2nd Year** Spent the summer at UVA doing a one-on-one reading course with one of my professors. Living expenses were covered by a \$2000 grant from the mathematics department. Currently I am taking three 2nd year PhD-level mathematics courses. I am also a member of the UVA operator theory seminar for graduate students

## Programming Experience

**Proficient In** Java, C++, Python, Javascript (see my github above)  
**Using scientific-computing software (SageMath, Mathematica)** level: medium  
**Using document markup software (L<sup>A</sup>T<sub>E</sub>X, Office Suite)** level: advanced  
**Using Linux** level: medium. (I currently run Arch-Linux on my main laptop)

## Honors and Awards

- Obtained \$2000 grant from the UVA mathematics department.
  - Supported summer research in operator algebras alongside Dr. Benjamin Hayes.
- Mathematics PhD Qualifying Exams
  - I took the Real and Complex analysis qualifying exams for upcoming 2nd year PhD students and successfully passed both.
- College Science Scholar, University of Virginia
  - Selected as one of 18 undergraduates for a research-oriented science-mentoring program.
- Echols Scholar, University of Virginia
  - Selected for Honors Program (5% of incoming freshman), waives general education requirements.