

# ANTHONY N. HEIN

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## EDUCATION

**Princeton University, Princeton, NJ** 9/2018 – 6/2022  
*Computer Science B.S.E., Certificate in Statistics and Machine Learning* **GPA:** 4.0 / 4.0

**Relevant Coursework:** Algorithms, Data Structures, Intro Machine Learning, Logic Design, Stochastic Systems

**Awards:** Shapiro Prize for Academic Excellence presented by President Christopher L. Eisgruber

**John F. Kennedy Memorial High School, Iselin, NJ** 9/2014-6/2018

**Awards:** Valedictorian, National AP Scholar, Student Government President, Mr. JFK **GPA:** 4.33 / 4.33

## SKILLS

**Languages:** Java, C, ARMv8 assembly language, Verilog, SQL, Python, R, MATLAB, Mathematica

**Technologies:** Microsoft Office, Linux Command Line, LaTeX, Oracle PL/SQL, Microsoft SSRS, Android Studio

**Other:** Lifeguard Certified, CPR Certified, First-Aid Certified, Traditional Mandarin (beginner)

## WORK EXPERIENCE

Digital Technology Leadership Program Intern, **Pratt & Whitney**, East Hartford, CT 6/2019 – 8/2019, 40 hr/ week

- Integrated **Microsoft SSRS** into DELMIA Apriso to enable real-time reporting on shop floor operations with technology that coworkers were familiar with (vs. niche Apriso reporting services).
- Proposed simpler, low-power alternatives to the current inefficient PLCs used on the shop floor.
- Used United Technologies Corp workflow software to automate service request emails to save **\$500** annually.
- Wrote 10 **SQL** scripts to automate data transformation from manually maintained **Excel** sheets to **Oracle PL/SQL** tables that were used by company scheduling software, saving **\$1000** annually.

Peer Tutor, **Princeton University**, Princeton, NJ 9/2019 – Present, 2 hr/week

- Tutor students one-on-one in COS226: Algorithms and Data Structures.

Lab Teaching Assistant, **Princeton University**, Princeton, NJ 1/2020 – Present, 4 hr/week

- Help students in introductory programming courses debug code through office-hour-like sessions.

## PROJECTS

Independent coursework, **COS217: Introduction to Programming Systems**, Princeton, NJ 12/2019

- Programmed an interactive shell with basic features using **C**, comparable to a minimal terminal.
- Wrote function definitions for malloc() and free() without using the equivalent **C** standard library functions.

Independent coursework, **COS226: Algorithms and Data Structures**, Princeton, NJ 4/2019

- Implemented the seam-carving image resizing technique using Dijkstra's shortest path algorithm in **Java**.
- Recreated the Burrows-Wheeler data compression algorithm to achieve ~0.35 compression ratio using **Java**.

**RateMyTreater**, **iCIMS Halloween Hackathon**, Holmdel, NJ (team member) 11/2018

- *Yelp!*-like app for trick-or-treaters to maximize loot and avoid suspicious houses using **Android Studio**.

**Guessbot**, **HackPrinceton**, Princeton, NJ 11/2018

- Predicts which binary option user will select based on previous input with 70% success rate using **Java**.

**WakeApp**, **Hack River Dell**, Oradell, NJ (team member) 11/2017

- Measures user wakefulness by app activity and keeps user alert, built with **Java** and **Android Studio**.

Scheduler, **Springwood Swim Club**, Colonia, NJ 6/2017

- Schedules employees based on availability to increase worker satisfaction using **Java**, saving **\$300** annually.

## LEADERSHIP / OUTREACH

Treasurer, **Princeton Guitar Club**, Princeton, NJ 10/2019 – Present

- Establish connections with local guitar vendors and negotiate discounts for club purchases.

Computing Mentor, **Engineering Projects in Community Service**, Princeton, NJ 9/2019 – Present

- Make weekly two-hour trips to Trenton to teach inner-city grade school students computer science concepts.

Treasurer, **Princeton PUZZLES**, Princeton, NJ 10/2018 – Present

- Calculate \$6,000+ budget for annual puzzlehunt to fund food, prizes, event gear, and University dues.
- Manage relations with corporate donors and academic departments to solicit funding.