ZACHARY BAYLIN

✉ me@zachbayl.in ☎ (770) 722-8911 📍 Atlanta, GA in zbaylin ○ zbaylin 🌐 zachbayl.in

Personal Statement

Analytical and intellectually curious developer with a passion for mathematical problem-solving through programming.

Education

Georgia Institute of Technology 📍Atlanta, GA   📅 Expected Graduation May 2022
Candidate for B.S. in Computer Science
Concentrating in System Architecture & Theory
Major GPA: 4.0, Cumulative GPA: 4.0

North Springs Charter High School 📍Sandy Springs, GA   📅 Graduated May 2019
High School Diploma with Math & Science Magnet Seal
GPA 102/100, Top 10 out of 400

Work Experience

Goldman Sachs 📍New York, NY   📅 Incoming, Summer 2021
💼 *Summer Analyst Intern, Engineering*

Facebook 📍Remote (Menlo Park, CA)   📅 Incoming, Winter 2021
💼 *Software Engineer Intern*

Outrun Labs LLC 📍Remote (Seattle, WA)   📅 May 2020 - August 2020
💼 *Software Engineer Intern*
- Helped to develop the Revery cross-platform GUI framework by implementing key features and deepening integration into supported platforms.
- Worked on Onivim2, a modal text editor based on `vim`, implementing modern editor features such as hover, signature help, and CJK font rendering.
- Developed high level features using ReasonML & OCaml, and integrated with system APIs in C/C++ (Win32 & GTK3) & Objective-C (Cocoa) using the OCaml foreign function interface (FFI).

Rolltrax LLC 📍Atlanta, GA   📅 August 2017 - Present
💼 *Co-Founder & CTO*
- Developed a full-stack SaaS solution for work-based learning coordinators and students to take attendance and manage their work. The system is composed of a Crystal web API and a ReasonReact frontend.
- Beta tested the system at North Springs High School over two years in order to determine the needs of our clients.
- Expanded the use of the system to over a dozen schools in the state of Georgia, where the system is relied upon for daily attendance

Projects

- **xv6 Operating System**: Improved upon the UNIX-based educational operating system by implementing the following features: debug tools, copy-on-write forking, lazy page allocation, priority-based scheduling, user-space threading, and filesystem permissions.
- **Revery**: Contributed to the Revery cross-platform GUI framework, which enables developers to build consistent user interfaces across multiple platforms. Implemented various key features such as font-fallback and font families, and deepened native integration through platform specific APIs.
- **gba_flappybird**: Ported the infamous mobile game Flappy Bird to the GameBoy Advance in C. Interfaced directly with the hardware using features like DMA, affine sprites, audio, and others.
- **SECurity-py**: Created a Python program to historically analyze trends between quarterly filings provided by the SEC. The program tracks holdings between quarters listed in 13F-HR forms and reports analytics over a specified period of time.

Skills

- **Languages/Tools**: OCaml, ReasonML, C, Java, Ruby, Crystal, C++, Objective-C, Cocoa, PostgreSQL, Javascript, Sinatra, ReactJS, Linux, Win32/COM, Docker, Google Cloud, Dart, Flutter, Git
- **Relevant Coursework**: Object-Oriented Programming, Data Structures & Algorithms, Systems & Networks, Operating Systems, Discrete Mathematics, Applied Combinatorics, Number Theory & Cryptography, Abstract Linear Algebra