

# Shane King

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## Skills & Technologies

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- **Languages:** Python, Rust, C, Java, Javascript, OCaml
- **Tools:** Git, Unix, bash, gdb, Tableau

## Projects

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### c2 Compiler Development 2021

- Designed and implemented compiler functionality for a C-like language
- Implemented lexical scoping and type checking systems
- Tools Used: OCaml, C, x86 Assembly, Makefile

### Time Series Transformer 2023

- Modified, trained, and deployed a transformer architecture for time series prediction
- Worked with end-to-end data pipelining for processing and analyzing SWOT satellite data
- Collaborated with a small team to evaluate model performance against other time series approaches
- Tools Used: Python, NumPy, PyTorch

### EaglePlan Web Application 2024

- Led development for course planning platform intended to serve the Boston College student population and utilized agile methodology in a team of 5 to deliver project milestones, design UI/UX, and demo our final product
- Implemented full-stack application functionality in Django with integration with a local Springboot API and the GoogleApps API
- Tools Used: Django, Python, Javascript, HTML, CSS, Springboot, MySQL

### RISCV-xv6 OS Extensions 2024

- Extended functionality of the lightweight xv6 operating system by implementing system calls and custom scheduling algorithms with a focus on thread and memory safety
- Wrote both user and kernel-space code and worked with low-level functionality with debugging carried out using gdb
- Tools Used: C, Makefile, gdb

## Experience

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### Video Manager, Boston College Women's Hockey – Chestnut Hill, MA Sep 2019 – Mar 2024

- Reduced time to render user buddy lists by 75% by implementing a prediction algorithm
- Integrated iChat with Spotlight Search by creating a tool to extract metadata from saved chat transcripts and provide metadata to a system-wide search database
- Redesigned chat file format and implemented backward compatibility for search

## Education

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### Boston College, BS in Computer Science, Minor in Mathematics Aug 2019 – May 2024

- GPA: 3.27/4.00
- **Computer Science Coursework:** Data Structures, Algorithms, Machine Learning, Compilers, Operating Systems, Computer Organization and Systems, Data Visualization
- **Mathematics Coursework:** Linear Algebra, Combinatorics, Discrete Mathematics, Differential Equations, Analysis, Abstract Algebra