

# Shreyas Kishore · श्रेयस किशोर

## work experience

### Apple

May 2021 – August 2021

#### Platform Architecture Intern

Worked on driving trace-driven simulation from checkpoints collected from silicon.

### Synchrony

August 2020 – May 2021

#### UI/UX Design Intern

Worked on redesigning Synchrony's eService platform for credit card users. Conducted user surveys and implemented a data-driven approach for design thinking.

### Apple

May 2020 – August 2020

#### Silicon Validation Intern

Developed a software framework that parses & visualizes SoC request-response traces, and provides a Python notebook interface for data-driven discovery and debugging. Added high-level front-end components that parse advanced SoC scan-dump structures.

### Synchrony

August 2019 – May 2020  
Champaign, IL

#### VUI Design Project

Worked on redesigning Synchrony's Alexa Skill for the Amazon Store Card. Conducted user interviews and implemented design changes based on the feedback.

### Google

May 2020 – August 2020  
Mountain View, CA

#### Software Engineering Intern

Worked on Procella, a distributed, highly-scalable SQL query engine built for YouTube analytics, currently serving hundreds of billions of queries per day. Implemented new caching policies in Procella to accelerate its adoption across teams in YouTube and Google.

### Synchrony

May 2020 – August 2020  
Champaign, IL

#### Hardware Engineering Intern

Built a specialized Merchant Terminal that utilizes data-over-sound to securely verify mobile payments. Worked on firmware for the BCM2837 SoC to fulfil engineering requirements.

## academic experience

### Passat Research Group

Mentored by Prof. Rakesh Kumar  
August 2020 – January 2022  
Champaign, IL

#### Co-Author & Research Assistant — Rethinking Programmable Earable Processors

Worked on a project that proposed a suite of representative emerging earable applications with diverse sensor-based inputs and computational requirements. Implemented a VLIW simulator in C++ modeling a modern DSP and ran computational kernels on the simulator. Paper "Rethinking Programmable Earable Processors" accepted to ISCA 2022.

#### Research Assistant — Dual Front-End Microarchitecture Project

Analyzed the feasibility of a microarchitecture that fetches and pre-processes both on-path and off-path instructions on low-confidence branch prediction. Implemented this modified microarchitecture on the Gem5 Simulator.

## projects

### SIGCloud – ACM@UIUC

Founded a student organization under ACM@UIUC to teach students how to leverage cloud technologies and DevOps for their projects. Focused on using platforms such as AWS, Google Cloud Platform, Microsoft Azure, DigitalOcean, CircleCI etc.

### NanoRV32I

Designed a RISC-V (RV32I) processor in SystemVerilog from scratch, among a team of three students. Implemented advanced features such as pipelining, out-of-order execution, branch prediction, speculative execution, and a multi-level cache hierarchy.

### Borland C++ for MacOS

2,000+ Monthly Downloads  
145,000+ Users

Ported Borland's MS-DOS based C/C++ IDE to modern MacOS systems, with platform-specific optimization and custom keymaps. Used by high school students across India for computer science coursework.

### Super Hexagon on FPGA

Created a clone of the popular game "Super Hexagon" running entirely in hardware on an Altera DE2-115 FPGA Development Board.

## education

### University of Illinois at Urbana-Champaign

B.Sc. in Computer Engineering  
Art & Design Minor  
3.32 GPA

Selected Coursework:

Computer Organization & Design  
Parallel Computer Architecture  
SoC Design  
Operating Systems  
Digital Systems Laboratory  
Signal Processing  
Mobile Sensing  
Wireless Networks  
Data Structures  
Algorithms & Models of Computation  
Computer Security  
Fall 2017 – May 2022

## skills

### Electrical & Computer Engineering

SoC Design  
RTL & High-Level Synthesis  
Signal Processing  
Embedded Systems

### Software & Development


C & C++  
Python  
Rust  
HTML  
CSS  
JavaScript / Typescript  
React  
Docker  
Server Administration  
Software Automation  
Full Stack Development

### Miscellaneous

User Interface Design (UI/UX)  
DIY Repair  
Photoshop  
InDesign  
Sketch  
Figma

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