

Yash Kaul

925-699-8894 | kauly.cs@gmail.com | [linkedin.com/in/yash-kaul](https://www.linkedin.com/in/yash-kaul) | github.com/Thaeriem | yashkaul.dev

EDUCATION

Rensselaer Polytechnic Institute

Troy, NY

Master of Science in Computer Science - GPA: 4.00/4.00

Jan 2024 – May 2025

- Relevant Coursework: Database Systems, Distributed Systems and Algorithms, Graph Mining, Parallel Computing

Rensselaer Polytechnic Institute

Troy, NY

Bachelor of Science in Computer Science - GPA: 3.73/4.00

Aug 2021 – May 2024

- Relevant Coursework: Data Structures and Algorithms, Discrete Math, Advanced Algorithms, Linear Algebra, Graph Theory, Principles of Software, Operating Systems, Numerical Analysis, Programming Languages, Software Design and Documentation
- Course Assistant for Data Structures and Algorithms:
Host lab/office hours, review sessions, and grade exams for 300+ students over six semesters
- Member of Upsilon Pi Epsilon (International Honors Society for Computing and Information Disciplines)

EXPERIENCE

Software Engineering Intern

Remote

IoT4AI

May 2024 - Aug 2024

- Developed simulation tool for testing latency and availability of IoT devices using Three.js, NumPy, and trimesh
- Created dynamic shortest path algorithm for real-time networks, improving average runtime by 50% using pruning
- Designed functionality running containerized BLE code for more accurate simulation of real-world conditions

Undergraduate Research Assistant

Troy, NY

Rensselaer Polytechnic Institute

Aug 2023 - May 2024

- Implemented Tarjan's parallel bi-connectivity algorithm with shared-memory and distributed communication in OpenMPI and C++

Software Engineering Intern

Remote

CollabLab

May 2023 - Dec 2023

- Developed robust cookie-based JWT authentication/login systems, empowering user management of sensitive data
- Designed middleware architecture using Passport.js; incorporating OAuth 2.0 (Google, Facebook, GitHub, etc.)
- Spearheaded infrastructure solution using CloudFormation: setup DNS, VPC subnets, Application Load Balancer, and ECS Clusters—cutting server costs by 32% and streamlining deployment workflow
- Automated code deployment of API services using Docker and ECR—enabling Zero Downtime Deployment

PROJECTS

yashkaul.dev (Personal Website) | *TypeScript, Three.js, TailwindCSS, React* | [link](#)

May 2024 – Present

Art2Ascii | *TypeScript, VSCodeAPI, Sharp, Esbuild* | [link](#)

May 2024 – Present

- Created VSCode extension to play ASCIIified GIF's in Explorer panel using Sharp for image processing
- Implemented color search algorithm using K-d trees, resulting in 10x speedup on image generation
- Published on Microsoft's Visual Studio Marketplace with 100+ users

PictoPlan | *Python, FastAPI, React, MongoDB, OpenAI API, Google Tesseract* | [link](#)

Nov 2023 – Jan 2024

HackRPI Best First Time Hack Winner

- Launched web-platform for educators to create guides from visual content using Google Tesseract and OpenAI API
- Designed data pipeline to store in MongoDB and then process images into text and summarize using GPT-3.5
- Collaborated with four colleagues over the course of 24 hours and deployed using Heroku and CloudFlare

TECHNICAL SKILLS

Languages: Python, C/C++, Java, SQL, JavaScript/TypeScript, HTML/CSS, MATLAB

Software: PostgreSQL, DynamoDB, MongoDB, Docker, Kubernetes, Express, React, Node.js, NumPy, Git, OpenMPI, JUnit, GDB, Valgrind

Cloud: API Gateway, S3, ECR, DNS, AWS CDK, AWS ECS/EKS, AWS Lambda, CloudFormation, CodeDeploy