

PRANAV BIJAPUR

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Actively seeking roles in Distributed Systems, Cloud Computing and Backend Engineering starting December 2022

EDUCATION

CARNEGIE MELLON UNIVERSITY - Pittsburgh, PA December 2022
Master of Science in Electrical and Computer Engineering - Applied Advanced Program GPA: 3.7/4.0
Coursework: Distributed Systems, Computer Networks, Storage Systems, Design Patterns

BMS COLLEGE OF ENGINEERING - Bangalore, India May 2018
Bachelor of Engineering in Electronics and Communication GPA: 8.8/10.0

SKILLS

Languages: Java, Python, C, C++, Dart, JavaScript **Frameworks:** Flask, Django, Spring Boot, JUnit
Cloud: AWS S3, AWS EC2, AWS Lambda, AWS DynamoDB **Tools:** PostgreSQL, JMeter, Redis, RabbitMQ, Docker
Build Tools: Git, Maven, Gradle, Jenkins, Travis CI, Sentry, Nginx **WebApps & Frontend:** jQuery, HTML, CSS, Flutter, React

EXPERIENCE

UBER TECHNOLOGIES INC. June 2022 – Present
Software Engineer Intern - Infrastructure, Programming Systems Group

- Automating code review process on with NLP and static analysis approaches to generate corrected code and find similar code edits
- Created data pipeline and dataset from scratch with Phabricator APIs, conducted empirical study, fine tuned CodeT5 transformer
- Devised static analysis approaches to validate code suggestions and detect bugs using Tree Sitter to compare method signatures

BELTECH.AI November 2020 – May 2021
Software Engineer - Backend & ML

- Responsible for critical Traffic Light Control code - created RL agent and Python backend to reduce average vehicle stop time by 24%
- Extracted Flask microservice and restructured backend to achieve zero downtime (partition tolerant) from previous 20 minutes/day
- Redesigned APIs for edge clients Raspberry Pi to be stateless & set up health-checks for traffic light monitoring in production

SABRE CORPORATION August 2018 – November 2020
Associate Software Engineer

- Devised and implemented multi-criteria hotel availability sorting in Sabre's industry-standard corporate booking tool
- Enhanced policy engine to support airfare ranking of 1000s of fare options in real-time, creating flexible rule engine for customers
- Worked to move hotel platform from 1 million line Java monolith to service-oriented architecture, creating reusable Sabre API
- Created Spring Boot microservice to simulate the CRS (Computer Reservation System) for internal use, supporting upto 2 TPS load
- Took multiple full-stack features to production with changes across 3 services, mentored an intern to contribute to features

PROJECTS

LINK STATE ROUTING PROTOCOL Spring 2022
Routing protocol in Python with keep-alive and link state advertisements, shortest path calculation and updates network topology within 10 seconds, tested on 32 host cluster at CMU

FILE CACHING PROXY Spring 2022
Distributed file-caching proxy in Java, allows concurrent readers and writers with open-close session semantics using RMI and threading
Check-on-use cache freshness mechanism with whole-file LRU caching on disk, supports standard UNIX calls on files

CloudFS - CLOUD HYBRID FILE SYSTEM Fall 2021
FUSE-based file system storing metadata and small files locally and big files on S3, deduplicated file contents by Rabin fingerprinting
Implemented on-disk LRU cache and filesystem snapshot. Optimized cloud usage cost and handled UNIX file permissions

myFTL - SSD FLASH TRANSLATION LAYER Fall 2021
Flash Translation Layer in C++ supporting 4 garbage collection policies and wear leveling using custom quadratic cost function

UBER PIRANHA - AUTO-DELETE STALE FEATURE FLAGS Spring 2020
Implemented major enhancement to support argument index, return type and calling class and ported config to JSON
Deployed Piranha at Sabre, auto-deleted 7000+ lines of dead code and saved 65+ hours of developer time

malloc - DYNAMIC MEMORY ALLOCATOR Spring 2021
Heap-based dynamic memory allocator using segregated free lists, achieving 12 KOps throughput and 68% memory utilization

MELTON APP AND DASHBOARD Fall 2020
Led a team of 5 developers on \$5K budget to develop Android & iOS mobile app and Django admin web dashboard
Spearheaded mobile app implementation in Flutter using Google Maps API and OAuth, formulated overall product and backend APIs