

# ABHISHEK PRAKASH

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## SUMMARY

An industry professional with over two years of industry experience, I specialize in designing, developing, and deploying software with clean, maintainable code. My expertise spans debugging, testing, and automation. I am passionate about leveraging computational algorithms to solve real-world challenges.

## TECHNICAL SKILLS

- Programming Languages and Scripting: **Python, Java Script, C++, Shell Scripting**
- Others: **NoSql/Sql Database, GIT, REST API, Front-end, Back-end, Agile Methodology, Flask, CI/CD, AWS, Docker**

## EDUCATION

**M.S in Computer Science, Florida State University - GPA:3.3/4.0** [Apr 2023]

- Courses: **Deep Reinforcement Learning, Data and Computer Communication, Artificial Intelligence, Advanced Algorithms, Network System Admin, Intro to Data Science, Database management systems.**

**B.E in Computer Science, Bhilai Institute of Technology - GPA: 7.6/10** [Jun 2019]

## EXPERIENCE

**Software developer, Pro Playgrounds [USA]** [May 2023]

- Spearheaded **UI and UX** customization efforts to elevate **website** user experience, leading to a remarkable 30% monthly increase in website traffic.
- Implemented a robust **sorting system** utilizing plugins to enhance product **filtering** capabilities on the website.
- Executed comprehensive **testing** procedures for the website, employing **GitLab CI/CD, Selenium, Ansible** and **Python** to validate the efficiency of the **filtering** process and **optimize** the **customer checkout** experience.

**Software developer, Cognitive Geo Interpretation Inc - [USA]** [Jan 2022 – Dec 2022]

- Development, design, and ongoing maintenance of a robust **GitLab CI/CD pipeline**, enabling seamless infrastructure development for standalone machines on **AWS**. Employed **Ansible** for efficient provisioning processes. This pipeline has been instrumental in **production**, facilitating **developer machine deployments**..
- Elevated software quality through comprehensive **end-to-end testing** initiatives, driving an increase in test coverage from 65% to an impressive 75%. Leveraged **Pytest, unit testing**, and **coverage** analysis to achieve these results.

**Research Assistant, Florida State University - [USA]** [Apr 2021 - Dec 2021]

- Achieved a prediction accuracy of around 90% by Implementing **Fed-Avg algorithm** for **Federated learning** on **MNIST data set** with six learning workers using **Pytorch**.
- Achieved 30% faster task off-loading by developing **Double deep - Q learning model** in **Pytorch** for **Reinforcement Learning** task, on edge devices.

**Voluntary Research Assistant, Florida State University - [ USA]** [Feb 2023 - July 2023]

- Accomplished the development of a **website backend prototype**, for seamless **CRUD** operations on an **SQLite** database using **Python Flask**. Crafted and populated the database with a substantial dataset comprising 2000 entries.

## PROJECTS

**Chat App** [June 2024 - July 2024]

- Developed a one-on-one Chat app using **Flask** and **Socket** programming for real-time messaging based on unique user hashes.
- Implemented a full-fledged front-end with **responsive** design and **JavaScript** for seamless data exchange between **front-end** and **back-end**.
- Utilized **MongoDB** for message storage and **Redis hashes** for efficient management of chat user **login** data.
- Enhanced security with session management and **encrypted** cookie handling and login system.

**Tiny Url Generator** [Apr 2024 - May 2024]

- Developed a comprehensive **Tiny URL generation service** with fully functional **front-end** and **back-end**
- Utilized **Redis hashes** for data storage and URL retrieval, incorporating **collision avoidance mechanisms**.
- Built the front-end with **Bootstrap** and **JavaScript** for responsiveness, and managed the back-end with **Flask, Redis**, and **Python**.
- Implemented **REST APIs** for URL creation and redirection, ensuring seamless integration.

**Portfolio Website** [Jan 2024 - July 2024]

- Developed a portfolio website to showcase work, utilising **Bootstrap, JS, HTML** and **CSS** for **Front-end**.
- Utilized **Flask** to develop a robust **RESTful API** for seamless backend functionality along with **MongoDB** for data fetching and storage.
- Orchestrated the deployment process using **Ansible** on an **AWS EC2** instance, configured **NGINX** for proxy server.

**Open-Source Patching and Un-patching tool** [Aug 2021 - Oct 2021]

- Developed an **Open-Source** tool named "**Patching**" to cut the segments (patches) of an image. Enlarged patches using an **interpolation algorithm**.
- Developed an "**Unpatching**" tool that takes the enlarged patches and combines them to generate the final image using **Python, NumPy, Pytorch** and **Poetry**.
- Code **optimization** with **Pytest**, **Black Formatter**, **Pylint** and **Coverage**.

**Automated EC2 Instance Provisioning and Git Repository Management** [Aug 2023 - Oct 2023]

- Used **Ansible** and **GitLab CI/CD** to automate deployment to EC2, ensuring consistency and reliability in **deployments**.
- Developed custom **scripts** for **Git** repository management and **secure keys** and permission handling.
- Utilized **AWS CLI** for infrastructure management and integrated **AWS S3** for reliable data storage and retrieval.

## SOFT SKILLS

- **Active Listening | Innovation | Critical Thinking | Bilingual Communication | Collaborative Team Player**