

Kartik Deshpande

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EDUCATION

State University of New York at Binghamton, Binghamton, NY.

August 2017 – May 2019 | GPA 3.67

Master's of Science in Computer Science.

Courses: Distributed Systems, Cloud Computing, Computer Security, Design and analysis of algorithms, Operating Systems, Design Patterns, Programming the Web, Computer Architecture, Programming Languages.

KLS Gogte Institute of Technology (VTU), Belgaum, India.

August 2012 - May 2016 | GPA 3.5

Bachelor's of Engineering in Computer Science.

Courses: Data Structures and Algorithms, Operating Systems, System Software, Database Systems, Computer and Storage Area Networks, Formal Languages and Automata, Compiler Design, Object Oriented Programming and Modeling, Web Programming.

WORK EXPERIENCE

The Research Foundation for SUNY, Research Assistant

Binghamton, NY, **November 2017 - Present**

- Developed a Web project on Product Inventory system.
- Development and maintenance of research health forms , HTML/CSS , jquery, MySQL, PHP.
- Implement, monitor and maintain changes to web pages via CMS.

Shreshta IT Technologies pvt ltd, Software Developer

Belgaum, India, **June 2016 – June 2017**

- Built a Personalized secure Data storage application and file server with active directory integration using Kerberos.
- Designed a Virtual Private Network software having remote access and site to site VPN .
- Developed and Dockerized a Software Update distributed application, made it portable and cloud vendor independent.
- Reverse Port tunneling for bypassing blocked or closed networks by establishing a tunnel between client and server.
- Developed a Linux based Network Firewall and a Web Filtering software with a proxy server.
- Implemented a failure recovery mechanism, to switch from one ISP to another, when one goes down via IP routing.
- Developed web applications and RESTful APIs using Flask framework.
- Also worked as a System Administrator managing networks, databases and OS with over more than 200 servers.

PROJECTS

Fault tolerant Distributed NoSQL database (python, protobuf)

- Supports scalability and high availability by implementing eventual consistency. Data is automatically replicated on multiple nodes for fault-tolerance, implementing Read repair and hinted handoff methods from DynamoDB and Cassandra

Movie Recommendation system (java, scala and C).

- Java to provide a web based user interface (JSP), C to initially populate database.
- Scala integrated with Java to use Cosine similarity algorithm to match similarity of two users to rank movies.

Distributed banking application using google's protocol buffer (python)

- Implemented a multi threaded Chandy–Lamport algorithm to capture global snapshots (state of all branches) by sending marker messages. The snapshot includes balance of all branches and the money in transit from one branch to another.

Assembly Language Simulator (c++)

- Developed a pipeline simulator which supports Register, Memory and Control flow instructions by implementing out of order executions, register renaming and use of physical register and memory bypassing.

WatchFS (python – FUSE, Django and flask)

- A software layer between the file system and the user which intercepts system calls and records the activities happening on the File System in real time and sends it to a remote server via flask REST API, developed in FUSE

Twitter Sentiment Analysis with Apache Spark (pyspark)

- Implemented Naive bayes model to classify tweets into positive and negative categories with Spark's standalone mode.

Other Projects

- Distributed File Server with hash table (*Python and Apache Thrift*), Naive bayes classifier (*java*), RSA encryption based voting system (*python*), SSL client server communication (*java*), Crude document searcher (*NodeJS, MongoDB, mustache templates*), SDN based MAC learning controller (*mininet, Pox, python*), MLFQ Scheduler (*xv6, C*).

TECHNICAL SKILLS

Languages : Python, Java, C, C++, PHP, Shell Scripting, NodeJS.

Software : Git, Docker, Pycharm, IntelliJ, Eclipse, Trello, Vim.

Database : MySQL, Postgresql, MongoDB, Oracle, SQLite.

Additional : Google's protocol buffer, Apache Thrift, Apache and Nginx Web server, TCP/IP protocols.

ACHIEVEMENTS

- Won the best security hack project at HackBU 2018 (hackathon at Binghamton University), the project was built in a span of 24 hours.
- Completed online courses 'Cyber Security' and 'Computer Networks' from edX and Coursera.