

# Kartik Deshpande

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## EDUCATION

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

**Expected May 2019 | GPA 3.7**

Master's of Science in Computer Science

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

**KLS Gogte Institute of Technology**, Belgaum, India

**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.

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## WORK EXPERIENCE

**The Research Foundation for SUNY, Research Project 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 Cloud Data storage application and file server with active directory integration.
  - 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 / closed networks.
  - Developed a Linux based Network Firewall and a Web Filtering software with a proxy server.
  - Developed web applications and RESTful APIs using Flask.
  - Also worked as a System Administrator managing networks, databases and OS with over more than 200 servers.
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## PROJECTS

**A Cassandra type Fault tolerant Distributed NoSQL database ( python )**

- Supports scalability and high availability without compromising performance by implementing eventual consistency.
- Data is automatically replicated to multiple nodes for fault-tolerance, implementing Read repair and hinted handoff
- Similar to Cassandra, client can configure consistency levels when issuing a request.

**Movie Recommendation system ( java , scala and C ).**

- Built by integration of three programming paradigms ( procedural , functional and object oriented ).
- 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 multithreaded 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++ )**

- Supports Register-to-register instructions, Memory instructions and Control flow instructions.
- Implements register renaming and use of physical register and memory bypassing.
- Instructions can be issued and completed out of order which makes it more efficient.

**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

**Other Projects**

- Distributed File Server ( Python and Apache Thrift ), Naive bayes classifier ( java ), Facial Recognition( Python OpenCV ), RSA encryption based voting server ( python ) , SSL client server communication ( java )
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## TECHNICAL SKILLS

**Languages :**

Python, Java, C ,C++, PHP, Shell Scripting, Javascript

**Software :**

Git, Docker, Pycharm, IntelliJ, Eclipse, Trello, Vim

**Database :**

MySQL , Postgresql ,Oracle

**Additional :**

Google's protocol buffer, Apache thrift, Apache and Nginx Web server, JSP. TCP/IP protocols,

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## 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.