# Sohan Patil

Github: github.com/sohanpatil
Portfolio: sohanpatil.github.io

LinkedIn: linkedin.com/in/patil-sohan
Email: sdpatil@cs.stonybrook.edu
Mobile: +1-631-800-6179

## Skills

**Languages:** *Proficient* - Java, C, Go, SQL, HTML / CSS; *Prior Experience* - Python, Swift, PHP, Shell, Javascript

**Tools and Frameworks:** Kubernetes, Docker, AWS, RabbitMQ, Linux Networking, NoSQL, Pandas, D3.js, scikit, Hadoop Stack, NodeJS, Angular, Spring, Flask, ASP .Net, JSP, Mobile (Android, iOS), Maven, GIT, JIRA

## Education

**State University of New York at Stony Brook** — Stony Brook, New York
*M.S. in Computer Science;* ***GPA: 3.8/4*** — *Aug 2019 - Dec 2020*

- **Coursework**: Distributed Systems, Databases, Data Science & Analytics, Human Computer Interaction, Algorithms
- **Teaching Assistant** (CSE 373, Analysis of Algorithms): Coached a class of 200+ students via semiweekly office hours

**Government College of Engineering** — Aurangabad, India
*B.E. in Computer Science and Engineering;* ***GPA: 8.35/10*** — *July 2013 - June 2017*

- **Coursework**: Operating Systems, Computer Networks, Statistics, Web Development, Parallal Computing, Computer Graphics

## Work Experience

**Nutanix** — San Jose, California
*Software Engineering Intern* — *June 2020 - Aug 2020*

- Achieved a 25% boost in pod networking performance by implementing a hypervisor native Kubernetes CNI-IPAM plugin for Nutanix's managed Kubernetes service. Tools used: Kubernetes, Go, gRPC, Netfilter, Open vSwitch
- Invented a 67% cheaper Disaster Recovery solution for "Clusters on AWS" product featuring 1 minute per recovery point objective and 15 minute recovery time objective (Won 1$^{st}$ place in UHack '20). Tools used: AWS, Wireguard

**Principal Financial Group (PFG)** — Pune, India
*Software Engineer* — *July 2017 - Aug 2019*

- Engineered an in-house Optical Character Recognition based claims processing web tool, replacing IBM's Datacap, thus saving $500,000 per year in licensing costs. Tools used: PyTesseract, Spring, Angular, OAuth2
- Saved 150 working hours per sprint by instituting a batch synchronization tool between on-premise data warehouse and public cloud. Tools used: Mulesoft, DB2 LUW, Salesforce Cloud API
- Slashed go-live time by 30% as a consequence of automating day-to-day maintenance tasks around Git and code vulnerability analysis. Tools used: Shell, Selenium, HP Fortify, SONAR
- Mentored six interns on domain knowledge as well as Agile practices, Git, Angular and Bootstrap Framework

## Key Projects

- **KVStore:** Built a fault-tolerant distributed key-value store using Raft algorithm for consensus in Go (Fall '19)
- **Distributed MapReduce**: Developed a MapReduce scheduler able to relaunch failed map/reduce jobs in Go (Fall '19)
- **EyeCanDo** ( bit.ly/eyecando): Working towards disability inclusion by employing Apple's ARKIT2 to enable ALS patients to use remodeled iOS apps like Notes, Mail, Smart Home and Music by simply tracking their eye movements (Ongoing)
- **COVID-19 Analysis:** Used Hadoop MapReduce and Spark to process COVID-19 datasets while visualizing the insights using D3. Investigated hospitalization trends using spatial databases (Spring '20)
- **Slide to Type**: Developed a multi-channel sokgraph detection tool using SHARK$^2$ algorithm as a clone of SwiftKey keyboard, using Flask. Incorporated Python multiprocessing to boost gesture recognition speed to 5x (Fall '19)
- **Simple DB**: Implemented a basic clone of SQLite which uses B Tree and B+ Tree as Index and Page file nodes (Jan '19)
- **Transaction Fraud Detection:** Used logistic regression to forecast fraud credit card transactions with 84.5% accuracy. Reduced bias due to imbalanced training data with the help of Synthetic Minority Oversampling Technique 'SMOTE' (Sept '19)

## Awards & Achievements

- **1$^{st}$ place, Nutanix UHack '20**: Won the Nutanix intern hackathon against 45 other candidates by assessing current Disaster Recovery solutions for "Clusters on AWS" and developing a 67% cheaper alternative (July 2020)
- **1$^{st}$ place, PFG Hackathon**: Used Google Web Speech API & ML to manage JIRA service tickets through voice (Jan 2019)
- **1$^{st}$ place/800+, PFG Rising Star Award**: Recognized as the best performer below 3 years of experience (May 2018)
- **2$^{nd}$ place/75000+, SEED IT Idol** (bit.ly/seed-winners): An intercollegiate state level coding competition (April 2016)