Nikhil Sulegaon

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Education

- **University of Colorado Boulder** — Boulder, CO
  Master of Science in Computer Science — *Aug 2017 – Present*
  Relevant courses: Machine Learning, NLP, Probabilistic models for Machine learning, and Computer Vision.
- **BMS College of Engineering** — Bangalore, India
  Bachelor of Engineering in Information Science and Engineering; GPA: 8.92/10.0 — *Sep 2011 – May 2015*
  Relevant courses: Data Structures using C, Design and Analysis of Algorithms, Operating Systems and Databases

Programming Skills

- **Languages**: Python, C#, Java, Ruby, C++, C, PHP, and NodeJs.
- **Frameworks**: Keras, Theano, Tensorflow, ASP.NET, Flask, Ruby on Rails, SpringMVC, ReactJs with Redux.
- **Databases**: MS SQL Server, Postgres, MySQL, and MongoDB.
- **Others**: Android, Git, AWS, Heroku, CI, Docker, HTML/CSS, JavaScript, Shell scripting, and Powershell.

Experience

- **University of Colorado Boulder** — Boulder, CO
  Teaching Assistant - Software tools and methodologies — *Sep 2017 - Present*
  - Teaching 60 students, full stack development and deployment of applications using core Agile principles and TDD.
  - Training students on technologies like Shell Scripting, HTML/CSS, JS, Git, REST, MySQL, PHP, CI, and Heroku.
  - This position also involves guiding and advising students on their academic and personal projects.
- **ThoughtWorks -** A staunch Agile company focused on quality of its deliverables — Bangalore, India
  Application Developer — *Aug 2015 - Aug 2017*
  Developed software using Agile practices like Test Driven Development, Continuous Integration and Delivery.
  - **Project Management Tool(C#, Silverlight, ASP.NET)**(for the largest consulting firm in the world): Predominantly worked on building a robust backend through TDD using C#. Applied appropriate refactoring techniques to a legacy code base and increased the test coverage from 16% to 65%. Contributed to optimizing extremely complex SQL queries thereby improving the performance of many key features by around 80%.
  - **Food-Supplies Management(Python, Sklearn, Keras)**: Worked on a stock management tool to help the pantry of the office plan the supply of fruits, vegetables, and grocery better in order to minimize wastage of food.
  - **Danglay(Ruby, Ruby on Rails)**: Built a scalable carpooling web application using Ruby on Rails to solve the problem of commute faced by numerous employees at ThoughtWorks.
- **FreeLancing -** Embedded System Prototyping — Bangalore, India
  Designed electronic prototypes of various Assistive Technology and Home Automation devices. — *Oct 2014 - June 2015*
  - **EMG Controlled Wheelchair(Arduino, C)**: A wheelchair which was controlled by an electromyograph, aimed at helping paraplegic patients move around. This system could also be controlled by a voice recognition unit.
  - **Surveillance System(Android, Python, C)**: Security system that enabled the owner to control the entrance gates and lockdown his/her house. This system also provided live surveillance of the house on a smart-phone.

Projects

- **Object 3D Pose Estimation(Python, Tensorflow, Unity)**: Using Neural Nets to deduce a dynamic object's 3D location(x, y, z) and rotation(roll, pitch, yaw). This information is piped to an AR head-mounted display to generate real and virtual object interactions. **Links:** *Demo*, *Paper(Report)*, *GitHub*.
- **Navisys(Java, Android, Python, C, OpenCV)**: Designed an embedded system, fitted into a wearable jacket, that provided turn-by-turn navigation with dynamic obstacle detection to visually impaired users. Ultrasonic sensors - the crux of the obstacle detection unit, were later replaced by a Convolution Neural Net to increase performance by 20%. **Links:** *Paper(Report)*, *Synopsis*.
- **Teacher's cube(Python, Bash)**: Electronic mnemonic cubes, representing alphabets of a language, that pronounced the word formed when arranged one beside the other. Aimed to help dyslexic children formulate and pronounce words.

Achievements

- Won the 'Best Research Project' award at the IEEE International Advance Computing Conference 2015, held at B.M.S College of Engineering. The project also featured in the *local newspaper(link)* for its novel approach of implementation.