Kiran Gadhave

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Education

- **The University of Utah** — Salt Lake City, UT
  Master of Science in Computer Science — *Aug. 2017 – Present*
  - **Courses**: Advanced Algorithms −93%, Natural Language Processing −96%, Machine Learning −94%
- **University of Mumbai** — Mumbai, India
  BE, Mechanical Engineering; Class Rank: 10/120; First Class with Distinction — *2011 – 2015*

Experience

- **Cadsol Services** — Mumbai, India
  Software Engineer — *July 2015 - March 2017*
  - **Product Configurators(PC)**: Developed tools called PC to automate the process of complicated engineering drawing generation. Developed PC to interface with CAD softwares viz. Solidworks, Autodesk Inventor using their graphics API.
  - **Inventory Master**: Led the development of tools & schema for very large data storage and retrieval over local MySQL server for 100 simultaneous users, fast composite text search tool and ability to write small macros for basic automation.
  - **Browser based CAD tool**: Developed a browser based 3D modeling tool for designing clean room layouts for hospitals using threeJS and TypeScript.

Projects

- **Event Extraction System for Latin American Terrorism**: Built an event extraction system with neural network and NLP pattern matching components to extract events. **Multilayer Perceptron** neuralnet with ReLU was used to recognize the incidents in text. Pattern matching was used to fill the template with specific details about the events. Achieved 4^{th} highest F-Score in the class.
- **Twitter Spambot Detection**: Ran multiple classifiers over Twitter Data collected using Social honeypots to detect spammers and malicious promoters on twitter. Tested 5 different classifiers and foudn that Bagged Forest classifiers with 1000 trees gave best performance of about **0.92** which is comparable with accuracy obtained in the original paper of **0.94**. I implemented all the classifiers from scratch and used 5−fold cross validation.
- **Space and time trade-offs in hash coding with allowable errors**: Implemented a data structure which allows probabilistic set membership tests with a small false positive rate, but allowing huge space and time savings. The data structure follows from the paper Cuckoo Filter(2014) and builds on similar ideas. We compared this with a much older data structure Bloom Filter. The new data structure not only performs better, but also allows deletion of items from set, which was not possible with Bloom Filters.
- **Quadrupedal insect robot**: Developed during my undergraduate studies as a part of Mechatronics class project. Designed and fabricated a four legged insect with two servos controlling 4 legs and MCS-51 microcontroller processing the timings for the walking gait. Entire insect and circuit was designed and then fabricated from scratch.

Awards

- **Sir Ratan Tata Trust Scholarship**: Was awarded Sir Ratan Tata Trust Scholarship in the academic year 2012-2013 for excellent performance in my undergraduate curriculum.

Extra-curricular activites

- **Team Captain for undergraduate racing team**: Lead the undergraduate college team in designing and fabricating an cost-effective All-Terrain Vehicle using computer simulations to minimize errors during fabrication. This was done for a national level engineering competition organized by Society of Automobile Engineers(SAE).
- **Volunteer Teacher**: Taught high school physics, chemistry and mathematics to students who couldn't attend high school due to financial constraints. Many of these students went on to give the required board exams and get a high school degree.

Skill

- **Languages**: Python, C#, C++, Java, JavaScript, Typescript
- **Tools**: pandas, sklearn, nltk, Spacy(NLP), .NET framework, SQL databases