Satya Surya Venkata Sasi Kiran, Yelamarthi

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Education

- **University of Massachusetts Amherst** — **Amherst**
  Masters in Computer Science, GPA:4.0 — *2018–Present*
- **Indian Institute of Technology Madras** — **Chennai**
  Dual Degree(B.Tech + M.Tech) Computer Science and Engineering , 9.55/10 — *2013–2018*
  Received the award for highest CGPA in the 7th and 8th semesters in the Computer Science department
- **Sri Chaitanya Junior College** — **Visakhapatnam**
  High School, Was awarded the KVPY Fellowship by Government of India. — *2011–2013*
  Ranked 366 in JEE Advanced 2013 among 150 thousand applicants.

Coursework

Teaching Assistant

- Computer Networks, Computer System Design - was given the star TA award

Electives

- Reinforcement Learning, Computer Vision, Computational Photography, Artificial Neural Networks for Computer Vision, Deep Learning, Topics in Deep Learning, Machine Learning, Natural Language Processing, Probabilistic Reasoning in Artificial Intelligence, Data Mining, Foundations of Cryptography, Router Architecture and Algorithms

Core Courses

- Computer Networks, Compilers, Databases, Software Engineering, Operating Systems, Computer System Design, Computer Organization, Discrete Mathematics, Data Structures & Algorithms, Automata Theory

Minor in Industrial Engineering

- Fundamentals of Operations Research, Industrial Engineering, Computer Simulations

Publications

- **ECCV 2018:** *'A Zero-shot framework for Sketch Based Image Retrieval'*
  Collaborators: Shiva Krishna Reddy, Ashish Mishra; **Guide**: Prof Anurag Mittal

  We find inherent faults in the existing evaluation methodology of Sketch based image retrieval (SBIR). To circumvent this, we propose a zero-shot framework of SBIR as an evaluation criteria and also propose a new benchmark for this task. We evaluate all the existing methods in this framework and find that their performance drops significantly. We then propose a generative framework for zero-shot SBIR which outperforms all the previous approaches.

Salient Projects

- **(Apr-May 2018):** *'Bundle Adjustment in the Large'*
  Guide: Prof Anurag Mittal

  This project explored the inexact Newton type bundle adjustment algorithm proposed in the paper of the same name. This inexact newton method along with methods that use Schur's complement trick to solve bundle adjustment were experimented on a small, medium and large dataset and their performances were compared.
- **(Mar-May 2017):** *'Categorization of Human Actions from Videos'*
  Guide: Prof Sukhendu Das

Explored the use of fine-grained hand-crafted methods for feature extraction from videos. Existing dimensionality reduction techniques were also tried out to reduce the feature size. These features were then used for the video classification task using support vector machines and neural networks.

- **(July-Nov 2016):** *'Question-Answering system : Smarter than an Eighth grader?'*
  Collaborators: Abhishek Naik, Mohan Bhambhani, Shiva Krishna Reddy; **Guide**: Prof Sutanu Chakraborty

  The influence of background knowledge in improving information retrieval based question answering systems was explored. Implemented a retrieval system and evaluated query augmentation to improve this retrieval. Comparative strengths and weaknesses of various approaches in information retrieval for question answering task were analyzed.

- **(July-Nov 2016):** *'Contextual Spell Checker'*
  Collaborators: Abhishek Naik, Mohan Bhambhani, Shiva Krishna Reddy; **Guide**: Prof Sutanu Chakraborty

  Built a spell checker which suggests the possible correct words for the given typo in both the presence and absence of context. Used the noisy channel formulation in the absence of context. This generates suitable candidates using inverted tri-grams and phonetics and rank them based on MAP estimate. For the phrase and sentence level spell check, we use an HMM of bi-grams where POS are the hidden variables and words are the observed variables, as well as web-scale N-grams model to estimate the correct word given the context.

- **(July-Nov 2016):** *'Light Field Photography'*
  Collaborators: Abhishek Naik, Shiva Krishna Reddy; **Guide**: Prof Kaushik Mitra

  Explored the concept of light field imaging which aims at capturing the angular component along with the spatial intensity component while taking a photograph. Synthetic light field images were first generated using POVRAY, a ray-tracer software. Several applications of light field like digital refocusing, looking behind an occluded object, depth map estimation were then implemented. Also developed an interactive web application to visualize these applications on light field images based on Stanford light field viewer.

Internships

- **Microsoft India** **Hyderabad**
  Software Engineer Intern *June–August 2016*

  Worked in the software development life cycle of Financial Intelligence and Professional Services (FIPS) team. Main focus was on SQL Server, database management, Data warehousing and Business Intelligence. Also cleared the 70-461 certification exam for querying Microsoft SQL Server. Participated in Microsoft India Data sciences challenge on ad click prediction and secured runner-up among the $100+$ teams of Microsoft employees.

- **My Ally (formerly Skedool.it)** **Remote**
  Software Engineer Intern *Feb–August 2015*

  Skedool is a Silicon valley based startup that focuses on smart scheduling using a smart personal assistant built using Artificial Intelligence and Natural language processing. Worked on developing modules for the integration of their personal assistant with Microsoft Outlook and Salesforce as a part of the internship.

Technical skills

- **Programming Languages:** Proficient in: C, C++, Python, Java, Matlab
- **Tools & Libraries:** Tensorflow, Torch, keras, numpy, scipy

Co-curricular and extra-curricular activity

- Was a part of team that came second in Football and Badminton in department sports meet at IIT Madras.
- Was a coordinator for the Prize money and Events team at Exebit 2015, the computer science department technical fest at IIT Madras
- Volunteered for National Social Service(NSS). Was part of team that aimed at providing digital education to rural India.
- Avid fan of Chelsea FC and watch all their soccer matches.