Vansh C Singh

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EDUCATION

B.S. in Computer Science, *UCSD Jacobs School of Engineering*, **3.9 GPA**   June 2019
- Regents Scholar, Provost Honors, Toastmasters, Tau Beta Pi
- **Accepted in UCSD Computer Science MS/BS Program**
- Notable Classes: Complexity Theory, Neural Nets, NLP, Discrete Math, Algorithms, Adv. Data Structures

WORK

Amazon, *Incoming SWE Intern*   January 2018 - March 2018

Microsoft, *Shell Data Science Intern*   June 2018 - September 2018
- Designed, prototyped, and implemented a scalable solution to reduce redundancy in SysSieve Feedback Generation themes - a tool that extracts user feedback themes from hundreds of millions of user feedback

Classy, *Software Engineering Intern*   June 2017 - September 2017
- Designed a custom language, SimpleSearch, and compiler that compiles into ElasticSearch Query DSL
  - While saving advanced functionality such as aggregations, and boolean expressions, compressed DSL queries by as much as 80%
- Created REST API to overlay over our ElasticSearch clusters using my SimpleSearch API interface
- Tool is now **actively used by the company**
- ➢ Compilers, REST, Serverless, Node, Express, React, Angular

Reality Shares, *Financial Analyst Intern*   September 2016 – January 2017
- Created an application that automates the calculation of a predictive market-strength indicator that forecasts long-term market downturns
- Saved 30 man-hours of work per month in a small company of just ~10 full-time employees
- ➢ Java, Bloomberg API, HighCharts

UCSD CSE Department, *Tutor*   June 2016 – Present
- CSE 12 (Intro. to Data Structures): Mentored students in their implementations of Hash Tables, Self-Balancing Trees, Self-Balancing Trees on Disk, Linked Lists, and Stacks, in three languages: C, C++, and Java
- CSE 15L (Software Engineering Tools): Conducted labs in Git, IDEs, Unit testing, Make, Ant, GDB, Valgrind, Vim
- CSE 110 (Software Engineering): Conducted labs in modern technologies including Firebase, React, Travis, Pandas/Numpy, Node, and Android
- CSE 105 (Theory of Computation): Helped professor teach Turing Machines, Complexity, and Computation
- ➢ C, C++, Java, BASH, GDB, Valgrind, Linux, Data Structures, Firebase, React, Travis, Node

PROJECTS

Image Auto-Captioning (NLP), *Co-Developer*   January - March 2017
- Composed of encoder-decoder model composed of an encoder CNN and an LSTM RNN decoder
- Final project for Gary Cottrell's Neural Networks class
- ➢ PyTorch, Neural Networks

Development of Hindi and Marathi (NLP research project), *Project Lead*   April - June 2017
- Lead a team of four in researching Hindi and Marathi's similarity to Sanskrit in order to better understand their divergence (*https://github.com/vanshcsingh/indic-lang-development*)
- Analyzed phoneme frequencies to gauge how similar they sound today compared to elder indic languages
- ➢ Python, NLTK, Machine Learning, Anthropology