3800 SW 34<sup>th</sup> Street Apt. BB272 Gainesville, FL 32608

# ABHINAV SHANKARANARAYANAN VENKATARAMAN

+1(352) 834-5961 <u>abhinavsv3@gmail.com</u> github.com/abhinavsv3 linkedin.com/in/abhinavsv3

#### INTERNSHIPS

Student Intern Universitat Politècnica de Catalunya, Barcelona, Spain

Feb 2016 - Jun 2016

Bachelor's Project Thesis: "Graph algorithms for visualizing high dimensional data" under the guidance of Prof. Ricard Gavalda and Prof. Marta Arias at Barcelona School of Informatics at LARCA; Highest Score: 9.8/10; Link: http://hdl.handle.net/2117/88495

- Selected the best suited community finding or graph clustering algorithm by balancing computational efficiency and quality of output from the literature.
- Implemented in Python and evaluated empirically the chosen *Louvain algorithm* for Community Detection. Implementation was found to be *faster* (by nearly 5%) than the existing implementations.
- Surveyed several graphical libraries and chose Alchemy.js (D3.js based graph drawing) to visually represent the communities found in the graph and use it to represent the output of the chosen Louvain algorithm's implementation.
- Integrated the above in a web application that allows the user to select an input graph file, execute the algorithm and visualize the result in a smooth way. [Web.py as back-end framework and bootstrap as front-end framework]

Exchange Student Tokyo City University, Tokyo, Japan

Jul 2015

- Only Student from School of Computing, SASTRA University.
- Designed an Algorithm to recognize edema(Swelling) of the brain using it's X-Ray CT Image.

Visiting Summer Student The Institute of Mathematical Sciences (IMSc), Chennai, India

Jun 2015

- *Top 20* students selected for the paid internship from across India.
- Designed and developed a 2-OPT algorithmic solution for Harmonious coloring of graphs (an NP complete problem).
- This led to a presentation of original ideas on "Chordal graphs and k-trees".

## Student Intern Indian institute of Information Technology Design and Manufacturing, Kanchepuram, India

Jun 2014

- Investigated deterministic and non-deterministic algorithms.
- Combinatorial Implementation of graph algorithms and Knight Graphs using Java.

#### **EDUCATION**

Gainesville, FL University of Florida Fall 2016 – May 2018

- MS in Computer Science at Computer and Information Science and Engineering Department, Herbert Wertheim College of Engineering
- Coursework: Analysis of Algorithms; Advanced Data Structures; Distributed Operating Systems; Formal Languages Computation;
   Programming Language Principles

Thanjavur, India SASTRA University Fall 2012 – Jun 2016

- B.Tech Computer Science and Engineering at School of Computing SASTRA University; CGPA: 8.35/10; First Class with Distinction
- Coursework: Operating Systems; Databases; Algorithms; Programming Languages; Comp. Architecture;

#### **PUBLICATION**

"Effective Management of Bus Transportation through Design of a Fuzzy Expert System", ARPN Journal of Engineering and Applied Sciences, vol. 10, no. 6, pp. 2392-2399, URL: http://www.arpnjournals.com/jeas/research\_papers/rp\_2015/jeas\_0415\_1773.pdf

April 2015

## **S**KILLS

- Languages and Technologies: C, C++, Java, Python, JavaScript, Latex, Matlab
- Technologies: Web.py, D3.js, Alchemy.js Media Technologies: Photoshop, GIMP
- Version Control: git
- Operating System: Windows, Linux, Unix-Based

## **TECHNICAL EXPERIENCE**

## **Selected Projects**

- Disease Predictor-Preventive Health Care Application (2016). To Visualizes and predicts the spread of disease in a country using D3. js maps
- FASTA Sequence Enumerator (2016). Enumerating the FASTA Sequence of Amino Acids into separate files using C++
- GNOME Calculator-Open Source Project (2014). Developed accurate and optimized code for calculator buttons and improved user interface
- Weed Removal Robot (2014). IIT Bombay sponsored project; Identify and remove weeds(yellow stick for simulation purpose) in field.

#### HONORS AND AWARDS

- Achievement Award Scholarship at University of Florida, August 2016
- Desh-Videsh Scholarship applicant for pursuing internship in UPC Barcelona (outside India) in the final semester, June 2016
- Dean's Merit List (Top 10%), SASTRA University, Fall 2012 till Jun 2016
- First Rank in Linux Programming, School of Computing, SASTRA University, Fall 2013
- Best Project in Computer Science (Class 12), P.S.Senior Secondary School, Mylapore, Chennai, India, 2012

#### Additional Leadership Experience

- Computing Cluster Head, Daksh University Technical Fest, Design and plan technical events in field of computing to cater to participating strength of more than 1000 students Jun 2015 to May 2016
- **General Secretary at the Association of Computer Engineers,** Department of Computer Science, Managing student events and hosting the Data Structures and Algorithms session for Juniors, Jun 2014 to May 2015

## EXTRA-CURRICULAR AND HANDS ON CODING EXPERIENCES

- Tech guru at ACM University of Florida Co-Host of the "git" workshop, August 2016.
- Participant in **Hackathon** for better driving (April 2016), **Graph-TA Conference** (March 2016), **HackUPC MLH Hackathon** at UPC Barcelona (Feb 2016), **Mobile world Congress (MWC)** held at Barcelona(Feb 2016), Member of Sakura Science Club, Japan, July 2015.
- Participant Programmer ACM ICPC Online Programming Contest, International Conference for "Data science and intelligence" (Sept 2014)