

# Tejaswi Gowda

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## EDUCATION

PhD in Computer Science, Arizona State University, Tempe AZ — 2012.

Bachelor of Engineering in Computer Eng., National Institute of Technology, Surathkal, India — 2005.

## EXPERIENCE

### **Honors Faculty, Arts Media Engineering, Arizona State University, Tempe, AZ — 2015-present**

Designed programming curriculum for the Digital Culture major, in the Herberger School of Art and Design. Examples of classes designed and taught: (1). AME 220: Programming for the Web, (2). AME 394: Advanced JavaScript Programming, (3). AME 470/570: Programming for the Social, Interactive Web. (4). AME 394 Programming the Internet of Things.

### **Computer Scientist, Foxy Ninja Studios, Tempe, AZ — 2011-present**

Developed in-house development framework for web apps — this includes a responsive front end Javascript/CSS and backend server built on top of Node.js/ mongo dB. Evaluated server hosting solutions — most familiar with building scalable app hosting infrastructure using Amazon Web Services. Was involved in negotiating contracts and delegating work to programmers and graphic designers.

### **Software Systems Architect, Innovative Hitech Healthcare Solutions, Phoenix, AZ — 2012-2015**

Evaluated and implemented a full technology stack for hosting the healthcare platform CARESapp.me (<https://caresapp.me/>). The platform is HIPAA compliant and allows healthcare providers to create their own shareable content and message patients via an encrypted messaging system.

### **Research Assistant, Arizona State University, Tempe AZ — 2005-2010**

As part of doctoral research, Threshold logic was investigated as an alternative to Boolean logic for designing post-CMOS circuits. Techniques of circuit synthesis, optimization and verification were developed, which were published in peer-reviewed papers and patents were filed when applicable. Threshold logic was also investigated as a modeling framework for gene regulatory activity.

### **Helios Scholar, Translational Genomics Research Institute (TGen), Phoenix AZ — 2007**

As a Helios scholar at TGen (<https://tgen.org/>), developed two models for early embryo development of fruit-flies. An algorithm for inferring gene regulatory networks from lab data was developed. The technique was used to predict interaction among a group of genes responsible for the manifestation of skin cancer. The findings are published in a peer-reviewed Journal.

### **Research Scholar, Synopsys Labs, Surathkal, India — 2003–2005**

Was involved in developing mapping solutions for major Field Programmable Gate Array (FPGA) brands like Xilinx and Altera. Designed and reduced test cases for chip designs. Benchmarked silicon compilers for FPGAs and proposed FPGA mapping for silicon compilers.

## SKILLS

- Computing languages : Python, Bash scripting, JavaScript, C, C++, Java.
- Web development : HTML5, CSS, JQuery, lessCSS, PHP, Node.js, Express.js.
- Platforms : Mac OS X, Linux, UNIX, Solaris, Windows.

- Databases: MySQL, Mongo dB.
- Amazon Web Services: Elastic Cloud Compute (EC2), S3 Storage, SNS Messaging.
- Miscellaneous: Git, LaTeX, Twitter Bootstrap, HIPAA compliant stack for healthcare apps.
- Applications/grant writing: U.S. Patents, NSF and DARPA grants.

## AWARDS / HONORS

- 27th and 58th rank in Karnataka Common Entrance Test (out of 127,000 test-takers) for Medical and Engineering colleges respectively, 2001.
- Chosen as one of the best performers in the Network Inference Challenge at the Dialogue on Reverse Engineering Assessment and Methods (DREAM2) conference, 2007.
- Awarded the Kauffman Entrepreneurial Advantage Program Grant, 2009.

## PUBLICATIONS

1. T. Gowda, S. Vrudhula, and G. Konjevod. *Combinational equivalence checking for threshold circuits*. In Proceedings of the ACM Great Lakes Symposium on VLSI (GLSVLSI), Stresa-Lago maggiore, Italy, 11 March 2007.
2. T. Gowda, S. Vrudhula, and G. Konjevod. *A non-ILP based threshold logic synthesis methodology*. In Proceedings of the Intl. Workshop on Logic Synthesis (IWLS), San Diego, 30 May - 1 June 2007.
3. T. Gowda, S. Leshner, S. Vrudhula, and S. Kim. *Threshold logic gene regulatory networks*. In Proceedings of the IEEE International Workshop on Genomic Signal Processing and Statistics (GENSIPS), Tuusula, Finland, 10 June 2007.
4. T. Gowda, S. Leshner, S. Vrudhula, and G. Konjevod. *Synthesis of threshold logic using tree matching*. In Proceedings of the European Conference on Circuit Theory and Design (ECCTD), Sevilla, Spain, 26 August 2007.
5. T. Gowda and S. Vrudhula. *A decomposition based approach for synthesis of multi-level threshold logic circuits*. In Proceedings of the Asia and South Pacific Design Automation Conference, Seoul, Korea, 21 January 2008.
6. T. Gowda, S. Leshner, S. Vrudhula, and S. Kim. *Threshold logic gene regulatory model: Prediction of dorsal-ventral patterning and hardware based simulation of drosophila*. In Proceedings of the Intl. Conference on Biomedical Electronics and Devices, Portugal, Jan 2008.
7. T. Gowda, S. Vrudhula, and S. Kim. *Modeling of gene regulatory network dynamics using threshold logic*. Annals of New York Academy of Sciences (NYAS), 1158(1):71–81, 2009.
8. T. Gowda, S. Vrudhula, and S. Kim. *Prediction of pair-wise gene interaction using threshold logic*. Annals of New York Academy of Sciences (NYAS), 1158(1):276–286, 2009.
9. T. Gowda, S. Vrudhula, N. Kulkarni, and K. Berezowski. *Identification of threshold functions and synthesis of threshold networks*. IEEE Transactions on Computer-Aided Design (TCAD), 30(5):665–677, May 2011.

## PATENTS

1. T. Gowda, S. Vrudhula, *Combinational Equivalence Checking for Threshold Logic Circuits*, US 8181133 B2, <https://www.google.com/patents/US8181133>, 2012.
2. T. Gowda, S. Vrudhula, *Decomposition based approach for the synthesis of threshold logic circuits*, US 8601417 B2, <https://www.google.com/patents/US8601417>, 2013.

## NATIONALITY

Indian Citizen. Permanent resident of the United States.