

# TUSHAR SHARMA

Software Engineering Researcher, Software Developer, and Author

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## EXPERIENCE

### Technical Expert

#### Siemens – Corporate Research & Technology

📅 May 2008 – Oct 2015 📍 Bangalore, India

- **Consult:** Evangelized/Coached the topics related to software design and refactoring. Provided services to development teams as an architect/consultant. Carried out extensive code/design reviews.
- **Research:** Proposed a few research projects, defined scope, worked as a key contributor. Contributed to a few research papers as author and presented them in reputed conferences. Mentored interns. Developed ideas relevant to the business and filed seven patent applications.
- **Training:** Prepared training material and deliver training sessions for topics related to Software design and architecture, refactoring, Testability, Maintainability, and tools.

### Software Developer

#### Blaze Audio

📅 April 2005 – Dec 2005 📍 Jaipur, India

### Software Developer

#### gSoft Technologies

📅 Nov 2004 – Mar 2005 📍 Jaipur, India

## EDUCATION

PhD in Computer Science,  
funded by SENECA – a Marie Skłodowska-Curie Action

#### Athens University of Economics & Business

📅 Dec 2015 – Present 📍 Athens, Greece

M.S. in Computer Science & Engg.

#### Indian Institute of Technology-Madras

📅 2006 – 2008 📍 Chennai, India

B.E. in Computer Science & Engg.

#### Rajasthan University

📅 2001 – 2004 📍 Jaipur, India

## SERVICE

- Reviewer for reputed journals Journal of Systems & Software and IET Software and for ACM Computing Reviews
- Committee member for MSR Data Showcase track 2018
- Sub-reviewer for reputed conferences such as ICSE SEIP, ICPC, OSS, TDA, MSR, and ESEM
- Organizer of SATToSE 2018.

## MOST PROUD OF



### Designite

Founded and developed Designite. The software design quality analysis tool helping software developers and researchers worldwide reduce technical debt in their code. The tool analyzed more than 357 million LOC in April 2018.



### Refactoring for Software Design Smells

Co-authored the book helping many software developers understanding code quality and more specifically, design smells and their refactoring.



### Stepping out of my Comfort Zone

Left a settled position in industry and opted to pursue PhD not only to improve technical and academic skills but also to gain cultural experience.

## SKILLS & STRENGTHS

### Technical

Software design & architecture

Software quality Refactoring

Machine learning on source code

Agile practices Training and coaching

Research & academic writing

Applying research in practice

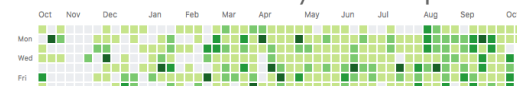
C#

Java

Python

C++

Github contributions May 2017 – Apr 2018



Public speaking

### Inter-personal

Hard-working Team player

Lead by example Persistent

Entrepreneur mind-set

## KEY PUBLICATIONS

### Books

- Ganesh SG, Hari Kiran, Tushar Sharma (2015). *Oracle Certified Professional Java SE 8 Programmer Exam 1Z0-809*. 1st ed. Apress. ISBN: 1484218353.
- Girish Suryanarayana, Ganesh SG, Tushar Sharma (2014). *Refactoring for Software Design Smells: Managing Technical Debt*. 1st ed. Morgan Kaufmann. ISBN: 0128013974.
- Ganesh SG, Tushar Sharma (2013). *Oracle Certified Professional Java SE 7 Programmer Exams 1Z0-804 and 1Z0-805: A Comprehensive OCPJP 7 Certification Guide*. 1st ed. Apress. ISBN: 1430247649.

### Journal Articles

- Tushar Sharma and Diomidis Spinellis (2018). "A survey on software smells". In: *Journal of Systems and Software* 138, pp. 158–173. ISSN: 0164-1212. URL: <http://www.sciencedirect.com/science/article/pii/S0164121217303114>.
- Girish Suryanarayana, Tushar Sharma, Ganesh Samarthyam (2015). "Software Process versus Design Quality: Tug of War?" In: *IEEE Software* 32.4, pp. 7–11.
- Tushar Sharma, Girish Suryanarayana, Ganesh Samarthyam (Oct. 2015). "Challenges to and Solutions for Refactoring Adoption: An Industrial Perspective". In: *IEEE Software* 32.6, pp. 44–51.
- Ganesh SG, Tushar Sharma, Girish Suryanarayana (June 2013). "Towards a Principle-based Classification of Structural Design Smells". In: *Journal of Object Technology* 12.2, 1:1–29. ISSN: 1660-1769. DOI: 10.5381/jot.2013.12.2.a1.

### Conference Proceedings






- Tushar Sharma, Marios Fragkoulis, Stamatia Rizou, Magiel Bruntink, Diomidis Spinellis (May 2018). "Smelly Relations: Measuring and Understanding Database Schema Quality". In: *40th International Conference on Software Engineering: Software Engineering in Practice Track*. ICSE-SEIP '18. Gothenburg, Sweden. ISBN: 978-1-4503-5659-6. DOI: 10.1145/3183519.3183529.
- Tushar Sharma, Marios Fragkoulis, and Diomidis Spinellis (Nov. 2017). "House of Cards: Code Smells in Open-Source C# Repositories". In: *2017 ACM/IEEE International Symposium on Empirical Software Engineering and Measurement (ESEM)*, pp. 424–429. DOI: 10.1109/ESEM.2017.57.
- Tushar Sharma, Marios Fragkoulis, Diomidis Spinellis (2016). "Does Your Configuration Code Smell?" In: *Proceedings of the 13th International Workshop on Mining Software Repositories*. MSR'16. Austin, Texas, pp. 189–200. ISBN: 978-1-4503-4186-8. DOI: 10.1145/2901739.2901761.
- Ganesh Samarthyam, Girish Suryanarayana, Tushar Sharma, Shrinath Gupta (2013). "MIDAS: A Design Quality Assessment Method for Industrial Software". In: *Proceedings of the 2013 International Conference on Software Engineering*. ICSE '13, pp. 911–920. ISBN: 978-1-4673-3076-3.

### Patent Applications

Submitted seven patent applications on the topics related to software design and refactoring during working with Siemens.

## TOOLS

The tools that I developed or contributed significantly (more information online)

-  **Designite**  
A software design quality analysis tool detecting code smells for C# code.
-  **Puppeteer**  
A configuration smell detection tool for Puppet code.
-  **Augur**  
A change impact analysis tool for C# code.
-  **DbDeo**  
A database schema smell detector for SQL code.
-  **SlideQ**  
A plug-in for MS Powerpoint to detect presentation smells.

## PUBLIC SPEAKING

Some selected venues are:

DevWeek, London (2015)

GIDS, Bangalore (2015)

DevOps Pro, Vilnius (2016)

Agile in the City, London (2016)

ASAS, Arnhem (2016)

FOSDEM, Brussels (2017)

Many meetups in Bangalore and Athens

## LANGUAGES

English  
Hindi  
Greek



## REFERENCES

**Prof. Diomidis Spinellis**

@ dds@aueb.gr

✉ 76, Patission street, Athens, Greece

**Prof. Panos Louridas**

@ louridas@aueb.gr

✉ 76, Patission street, Athens, Greece

**Dr. Girish Suryanarayana**

@ girish.suryanarayana@siemens.com

✉ Siemens Corporate Research and Technologies, Bangalore, India