• **No Java without Caffeine: A Tool for Dynamic Analysis of Java Programs**
  Yann-Gaël Guéhéneuc, Rémi Douence, Narendra Jussien
  ASE '02 Proceedings of the 17th IEEE international conference on Automated software engineering
  2002

• **Invariant inference for static checking:**
  Jeremy W. Nimmer, Michael D. Ernst
  SIGSOFT '02/FSE-10 Proceedings of the 10th ACM SIGSOFT symposium on Foundations of software engineering
  2002
  EXCLUDED: This paper describes an evaluation of the effectiveness of two techniques, one static and one dynamic, to assist the annotation process, not software development or architecture recovery.

• **Reverse engineering of object oriented code**
  Paolo Tonella
  ICSE '05 Proceedings of the 27th international conference on Software engineering
  2005
  EXCLUDED: This is a tutorial. It describes some advanced techniques that can be employed to reverse engineer several design views from the source code.

• **Measuring precision for static and dynamic design pattern recognition as a function of coverage**
  Niklas Pettersson
  WODA '05 Proceedings of the third international workshop on Dynamic analysis
  2005

• **A dynamic analysis for revealing object ownership and sharing**
  Derek Rayside, Lucy Mendel, Daniel Jackson
  WODA '06 Proceedings of the 2006 international workshop on Dynamic systems analysis
  2006

• **Program partitioning: a framework for combining static and dynamic analysis**
  Pankaj Jalote, Vipindeep Vangala, Taranbir Singh, Prateek Jain
  WODA '06 Proceedings of the 2006 international workshop on Dynamic systems analysis
  2006
  EXCLUDED: it doesn't describe how the bytecode instrumentation is done.

• **Dynamic analysis of program concepts in Java**
EXCLUDED: It does not recover the architecture / structure, but program concepts in Java.

- **Combined static and dynamic analysis for inferring program dependencies using a pattern language**
  
  Inbal Ronen, Nurit Dor, Sara Porat, Yael Dubinsky
  
  CASCON '06 Proceedings of the 2006 conference of the Center for Advanced Studies on Collaborative research
  
  2006

  EXCLUDED: The paper proposes a new approach for static analysis.

- **Static analysis for dynamic coupling measures**
  
  Yin Liu, Ana Milanova
  
  CASCON '06 Proceedings of the 2006 conference of the Center for Advanced Studies on Collaborative research
  
  2006

- **Adaptive Online Program Analysis**
  
  Matthew B. Dwyer, Alex Kinneer, Sebastian Elbaum
  
  ICSE '07 Proceedings of the 29th international conference on Software Engineering
  
  2007

- **AWE: improving software analysis through modular integration of static and dynamic analyses**
  
  Ruben E. Brown, Roger Khazan, Michael Zhivich
  
  PASTE '07 Proceedings of the 7th ACM SIGPLAN-SIGSOFT workshop on Program analysis for software tools and engineering
  
  2007

  EXCLUDED: AWE is a prototype system for performing analysis of x86 executables in the absence of source code or debugging information.

- **Comparing call graphs**
  
  Ondrej Lhoták
  
  PASTE '07 Proceedings of the 7th ACM SIGPLAN-SIGSOFT workshop on Program analysis for software tools and engineering
  
  2007

  EXCLUDED: The paper focus on comparison of call graphs in particular. The call graphs can be the result of dynamic analysis, or not.

- **Object flow analysis: taking an object-centric view on dynamic analysis**
  
  Adrian Lienhard, Stéphane Ducasse, Tudor Gîrba
  
  ICDL '07 Proceedings of the 2007 international conference on Dynamic languages: in conjunction with the 15th International Smalltalk Joint Conference
  
  2007
Using information retrieval to support design of incremental change of software
Denys Poshyvanyk, Andrian Marcus
ASE '07 Proceedings of the twenty-second IEEE/ACM international conference on Automated software engineering
2007

EXCLUDED: They propose the use of Information Retrieval (IR) to extract and represent semantic information.

Feature location via information retrieval based filtering of a single scenario execution trace
Dapeng Liu, Andrian Marcus, Denys Poshyvanyk, Vaclav Rajlich
ASE '07 Proceedings of the twenty-second IEEE/ACM international conference on Automated software engineering
2007

EXCLUDED: The paper presents a semi-automated technique for feature location in source code.

View-based maintenance of graphical user interfaces
Peng Li, Eric Wohlstadter
AOSD '08 Proceedings of the 7th international conference on Aspect-oriented software development
2008

Dynamic round-trip GUI maintenance
Peng Li, Eric Wohlstadter
ICSE '08 Proceedings of the 30th international conference on Software engineering
2008

EXCLUDED: The same idea / solution was presented in the paper 'View-based maintenance of graphical user interfaces' - same authors, both in 2008.

Automatic generation of software behavioral models
Davide Lorenzoli, Leonardo Mariani, Mauro Pezzè
ICSE '08 Proceedings of the 30th international conference on Software engineering
2008

Towards a better collaboration of static and dynamic analyses for testing concurrent programs
Jun Chen, Steve MacDonald
PADTAD '08 Proceedings of the 6th workshop on Parallel and distributed systems: testing,
analysis, and debugging
2008

EXCLUDED: This paper combines static and dynamic analyses for testing concurrent programs, not for architecture recovery.

- **Mining past-time temporal rules from execution traces**
  
  David Lo, Siau-Cheng Khoo, Chao Liu
  
  WODA '08 Proceedings of the 2008 international workshop on dynamic analysis: held in conjunction with the ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA 2008)
  
  2008

  EXCLUDED: This paper presents an approach to mine significant rules from program execution traces (only the monitoring phase of dynamic analysis)

- **Hierarchical inter-object traces for specification mining**
  
  David Lo, Shahar Maoz
  
  OOPSLA Companion '08 Companion to the 23rd ACM SIGPLAN conference on Object-oriented programming systems languages and applications
  
  2008

  EXCLUDED: Publication has 2 pages only.

- **Dynamic analysis of Ada programs for comprehension and quality measurement**
  
  Elaheh Safari-Sharifabadi, Constantinos Constantinides
  
  SIGAda '08 Proceedings of the 2008 ACM annual international conference on SIGAda annual international conference
  
  2008

- **Specification mining of symbolic scenario-based models**
  
  David Lo, Shahar Maoz
  
  PASTE '08 Proceedings of the 8th ACM SIGPLAN-SIGSOFT workshop on Program analysis for software tools and engineering
  
  2008

- **Static extraction of sound hierarchical runtime object graphs**
  
  Marwan Abi-Antoun, Jonathan Aldrich
  
  TLDI '09 Proceedings of the 4th international workshop on Types in language design and implementation
  
  2009

  EXCLUDED: They propose a method for static analysis.

- **Dynamic shape analysis via degree metrics**
  
  Maria Jump, Kathryn S. McKinley
  
  ISMM '09 Proceedings of the 2009 international symposium on Memory management
  
  2009
EXCLUDED: The paper uses dynamically-discovered degree metrics to find errors in incorrect executions. It is not used for program comprehension or architecture recovery.

- **A viewpoint-based approach for interaction graph analysis**
  
  **Sitaram Asur, Srinivasan Parthasarathy**
  
  KDD '09 Proceedings of the 15th ACM SIGKDD international conference on Knowledge discovery and data mining
  
  2009

  EXCLUDED: The paper is not about software development / maintenance.

- **Detecting precise behavioral models**
  
  **Mauro Santoro**
  
  ESEC/FSE Doctoral Symposium '09 Proceedings of the doctoral symposium for ESEC/FSE on Doctoral symposium
  
  2009

  EXCLUDED: PhD thesis

- **Scalable temporal order analysis for large scale debugging**
  
  **Dong H. Ahn, Bronis R. de Supinski, Ignacio Laguna, Gregory L. Lee, Ben Liblit, Barton P. Miller, Martin Schulz**
  
  SC '09 Proceedings of the Conference on High Performance Computing Networking, Storage and Analysis
  
  2009

  EXCLUDED: The approach is about high performance.

- **Mining Hierarchical Scenario-Based Specifications**
  
  **David Lo, Shahar Maoz**
  
  
  2009

  EXCLUDED: The approach mines significant rules from execution traces. Only the monitoring phase of dynamic analysis is considered.

- **Optimizing a Structural Constraint Solver for Efficient Software Checking**
  
  **Junaid Haroon Siddiqui, Darko Marinov, Sarfraz Khurshid**
  
  
  2009

  EXCLUDED: The paper aims to reduce the number of test cases generated.
The SourceGraph program
Ivan Lazar Miljenovic
PEPM ’10 Proceedings of the 2010 ACM SIGPLAN workshop on Partial evaluation and program manipulation
2010

EXCLUDED: The approach uses static analysis

Static and dynamic attribute slicing tool for object-oriented programs
M. S. Lydia, J. Srinath, J. Gyani
ICWET ’10 Proceedings of the International Conference and Workshop on Emerging Trends in Technology
2010

S01

Enhancing static source code search with dynamic data
Reid Holmes, David Notkin
SUITE ’10 Proceedings of 2010 ICSE Workshop on Search-driven Development: Users, Infrastructure, Tools and Evaluation
2010

EXCLUDED: The paper is about dynamic search and not dynamic analysis

The RoadRunner Dynamic Analysis Framework for Concurrent Programs
Cormac Flanagan, Stephen N. Freund
PASTE ’10 Proceedings of the 9th ACM SIGPLAN-SIGSOFT workshop on Program analysis for software tools and engineering
2010

EXCLUDED: The proposed solution provides a clean API for communicating an event stream to back-end analyses, such as memory use and thread management.

Proving memory safety of floating-point computations by combining static and dynamic program analysis
Patrice Godefroid, Johannes Kinder
ISSTA ’10 Proceedings of the 19th international symposium on Software testing and analysis
2010

EXCLUDED: The paper is about security testing

Analyzing the behavior of event processing applications
Ella Rabinovich, Opher Etzion, Sitvanit Ruah, Sarit Archushin
DEBS ’10 Proceedings of the Fourth ACM International Conference on Distributed Event-Based Systems
2010
An approach for modeling dynamic analysis using ontologies
Newres Al Haider, Paddy Nixon, Benoit Gaudin
WODA '10 Proceedings of the Eighth International Workshop on Dynamic Analysis
2010

Static- and dynamic consistency analysis of UML state chart models
Christian Schwarzl, Bernhard Peischl
MODELS'10 Proceedings of the 13th international conference on Model driven engineering
languages and systems: Part I
2010

EXCLUDED: The dynamic analysis is used to reveal bugs like deadlocks and inter-model
loops

Applications of enhanced dynamic code evolution for Java in GUI development and dynamic
aspect-oriented programming
Thomas Würthinger, Walter Binder, Danilo Ansaloni, Philippe Moret, Hanspeter Mössenböck
GPCE '10 Proceedings of the ninth international conference on Generative programming and
component engineering
2010

EXCLUDED: The paper demonstrates a tool that allows changes to loaded classes at
runtime and also the addition of GUI components without restarting the application.

Composition of dynamic analysis aspects
Éric Tanter, Philippe Moret, Walter Binder, Danilo Ansaloni
GPCE '10 Proceedings of the ninth international conference on Generative programming and
component engineering
2010

EXCLUDED: They explore the integration of execution levels in a mainstream aspect
language - AspectJ

Using dynamic analysis to create trace-focused user interfaces for IDEs
Del Myers, Margaret-Anne Storey
FSE '10 Proceedings of the eighteenth ACM SIGSOFT international symposium on Foundations
of software engineering
2010

EXCLUDED: only two pages

Polymorphic bytecode instrumentation
Philippe Moret, Walter Binder, Éric Tanter
AOSD ’11 Proceedings of the tenth international conference on Aspect-oriented software
EXCLUDED: The paper presents a new approach for code instrumentation (monitoring phase only)

- Towards a domain-specific aspect language for dynamic program analysis: position paper
  Walter Binder, Philippe Moret, Danilo Ansaloni, Aibek Sarimbekov, Akira Yokokawa, Éric Tanter
  DSAL ’11 Proceedings of the sixth annual workshop on Domain-specific aspect languages
  2011
  EXCLUDED: only three pages

- Self-refining aspects for dynamic program analysis
  Danilo Ansaloni
  AOSD ’11 Proceedings of the tenth international conference on Aspect-oriented software development companion
  2011
  EXCLUDED: They aim to reduce the number of intercepted join points at runtime in an aspect-oriented language.

- FireDetective: understanding ajax client/server interactions
  Nick Matthijssen, Andy Zaidman
  ICSE ’11 Proceedings of the 33rd International Conference on Software Engineering
  2011
  EXCLUDED: only three pages

- Statically-directed dynamic automated test generation
  Domagoj Babi, Lorenzo Martignoni, Stephen McCamant, Dawn Song
  ISSTA ’11 Proceedings of the 2011 International Symposium on Software Testing and Analysis
  2011
  EXCLUDED: They explore static analysis

- Combined static and dynamic automated test generation
  Sai Zhang, David Saff, Yingyi Bu, Michael D. Ernst
  ISSTA ’11 Proceedings of the 2011 International Symposium on Software Testing and Analysis
  2011
  EXCLUDED: Paper explores test generation

- Continuation equivalence: a correctness criterion for static optimizations of dynamic analyses
  Eric Bodden
  WODA ’11 Proceedings of the Ninth International Workshop on Dynamic Analysis
2011

EXCLUDED: Four pages only

- Custom-made instrumentation based on static analysis
  Tobias Gutzmann, Welf Löwe
  WODA '11 Proceedings of the Ninth International Workshop on Dynamic Analysis
  2011

  EXCLUDED: They propose a custom-based instrumentation technique (monitoring phase only)

- Reverse engineering of dependency graphs via dynamic analysis
  Wilhelm Hasselbring
  ECSA '11 Proceedings of the 5th European Conference on Software Architecture: Companion Volume
  2011

  EXCLUDED: It is an invited talk

- What is my program doing? program dynamics in programmer's terms
  Steven P. Reiss, Alexander Tarvo
  RV'11 Proceedings of the Second international conference on Runtime verification
  2011

  EXCLUDED: They present a review including several approaches to use dynamic analysis for software comprehension

- Execution trace exploration and analysis using ontologies
  Newres Al Haider, Benoit Gaudin, John Murphy
  RV'11 Proceedings of the Second international conference on Runtime verification
  2011

  EXCLUDED: only five pages

- SOS: saving time in dynamic race detection with stationary analysis
  Du Li, Witawas Srisa-an, Matthew B. Dwyer
  OOPSLA '11 Proceedings of the 2011 ACM international conference on Object oriented programming systems languages and applications
  2011

  EXCLUDED: The paper provides an insight that once a stationary object becomes thread shared, races cannot occur.

- Abstractions from tests
  Mayur Naik, Hongseok Yang, Ghila Castelnuovo, Mooly Sagiv
  POPL '12 Proceedings of the 39th annual ACM SIGPLAN-SIGACT symposium on Principles of programming languages
  2012
**Program slicing enhances a verification technique combining static and dynamic analysis**

Omar Chebaro, Nikolai Kosmatov, Alain Giorgetti, Jacques Julliand  

**DiSL: an extensible language for efficient and comprehensive dynamic program analysis**

Lukáš Marek, Yudi Zheng, Danilo Ansaloni, Walter Binder, Zhengwei Qi, Petr Tuma  
DSAL '12 Proceedings of the seventh workshop on Domain-Specific Aspect Languages 2012

**Statically checking API protocol conformance with mined multi-object specifications**

Michael Pradel, Ciera Jaspan, Jonathan Aldrich, Thomas R. Gross  
ICSE '12 Proceedings of the 34th International Conference on Software Engineering 2012

**Integrated impact analysis for managing software changes**

Malcom Gethers, Bogdan Dit, Huzefa Kagdi, Denys Poshyvanyk  
ICSE '12 Proceedings of the 34th International Conference on Software Engineering 2012

**How much does unused code matter for maintenance?**

Sebastian Eder, Maximilian Junker, Elmar Jürgens, Benedikt Hauptmann, Rudolf Vaas, Karl-Heinz Prommer  
ICSE '12 Proceedings of the 34th International Conference on Software Engineering 2012

**Using dynamic analysis to discover polynomial and array invariants**

ThanhVu Nguyen, Deepak Kapur, Westley Weimer, Stephanie Forrest  
ICSE '12 Proceedings of the 34th International Conference on Software Engineering 2012

**Analysis of pure methods using garbage collection**

Erik Österlund, Welf Löwe
EXCLUDED: Their work is about parallelization and optimization

- Dynamic cost verification for cloud applications
  Kevin Buell, James Collofello
  WODA 2012 Proceedings of the 2012 Workshop on Dynamic Analysis
  2012
  EXCLUDED: They advocate for increase attention to economic attributes of cloud applications

- Extracting EFSMs of web applications for formal requirements specification
  Andrey Zakonov, Anatoly Shalyto
  SAFECOMP'12 Proceedings of the 31st international conference on Computer Safety, Reliability, and Security
  2012
  EXCLUDED: The paper is about traceability and security

- Automated trendline generation for accurate software effort estimation
  Karthikeyan Ponnalagu, Nanjangud Narendra
  SPLASH '12 Proceedings of the 3rd annual conference on Systems, programming, and applications: software for humanity
  2012
  EXCLUDED: The paper is about effort estimation of development tasks

- Automating presentation changes in dynamic web applications via collaborative hybrid analysis
  Xiaoyin Wang, Lu Zhang, Tao Xie, Yingfei Xiong, Hong Mei
  2012
  S01

- Architecture-Independent dynamic information flow tracking
  Ryan Whelan, Tim Leek, David Kaeli
  CC'13 Proceedings of the 22nd international conference on Compiler Construction
  2013
  EXCLUDED: The approach for data flow tracking is architecture-independent

- Common specification language for static and dynamic analysis of C programs
  Mickaël Delahaye, Nikolai Kosmatov, Julien Signoles
  SAC '13 Proceedings of the 28th Annual ACM Symposium on Applied Computing
EXCLUDED: This paper proposes a new technique to instrument C programs (monitoring phase only)

- **Segmented symbolic analysis**  
  Wei Le  
  ICSE '13 Proceedings of the 2013 International Conference on Software Engineering  
  2013

- **Combining static and dynamic analysis for the reverse engineering of web applications**  
  Carlos E. Silva, José C. Campos  
  EICS '13 Proceedings of the 5th ACM SIGCHI symposium on Engineering interactive computing systems  
  2013

- **Enabling modularity and re-use in dynamic program analysis tools for the Java virtual machine**  
  Danilo Ansaloni, Stephen Kell, Yudi Zheng, Lubomír Bulej, Walter Binder, Petr Tma  
  ECOOP'13 Proceedings of the 27th European conference on Object-Oriented Programming  
  2013

- **Jalangi: a tool framework for concolic testing, selective record-replay, and dynamic analysis of JavaScript**  
  Koushik Sen, Swaroop Kalasapur, Tasneem Brutch, Simon Gibbs  
  ESEC/FSE 2013 Proceedings of the 2013 9th Joint Meeting on Foundations of Software Engineering  
  2013

  EXCLUDED: Four pages only

- **Z3-str: a Z3-based string solver for web application analysis**  
  Yunhui Zheng, Xiangyu Zhang, Vijay Ganesh  
  ESEC/FSE 2013 Proceedings of the 2013 9th Joint Meeting on Foundations of Software Engineering  
  2013

  EXCLUDED: The paper's solution is a general purpose string solver

- **Automatically describing software faults**  
  Nicholas DiGiuseppe  
  ESEC/FSE 2013 Proceedings of the 2013 9th Joint Meeting on Foundations of Software Engineering  
  2013

  EXCLUDED: Five pages only
- **CUBIT**: compact bitmap profiling for dynamic data dependence analysis  
  HyoYoung Kim, Sungtae Ryu, Hwansoo Han  
  RACS '13 Proceedings of the 2013 Research in Adaptive and Convergent Systems  
  2013

  EXCLUDED: The approach is about data dependency analysis

- **ShadowVM**: robust and comprehensive dynamic program analysis for the java platform  
  Lukáš Marek, Stephen Kell, Yudi Zheng, Lubomír Bulej, Walter Binder, Petr Tma, Danilo Ansaloni, Aibek Sarimbekov, Andreas Sewe  
  GPCE '13 Proceedings of the 12th international conference on Generative programming: concepts & experiences  
  2013

  EXCLUDED: The paper presents a new technique for code instrumentation (monitoring phase only)

- **Automated architectural evaluation of web information systems**  
  Felipe Pinto, Ulirá Kulesza, Eduardo Guerra, João Maria Júnior, Leo Silva  
  WebMedia '13 Proceedings of the 19th Brazilian symposium on Multimedia and the web  
  2013

- **TESLA**: temporally enhanced system logic assertions  
  Jonathan Anderson, Robert N. M. Watson, David Chisnall, Khilan Gudka, Ilias Marinos, Brooks Davis  
  EuroSys '14 Proceedings of the Ninth European Conference on Computer Systems  
  2014

- **Static and dynamic analysis of call chains in java**  
  Atanas Rountev, Scott Kagan, Michael Gibas  
  ISSTA '04 Proceedings of the 2004 ACM SIGSOFT international symposium on Software testing and analysis  
  2004

- **Sofya**: Supporting Rapid Development of Dynamic Program Analyses for Java  
  Alex Kinneer, Matthew B. Dwyer, Gregg Rothermel  
  ICSE COMPANION '07 Companion to the proceedings of the 29th International Conference on Software Engineering  
  2007

  EXCLUDED: only two pages
No Java without Caffeine: A Tool for Dynamic Analysis of Java Programs

Authors: Yann-Gaël Guéhéneuc
          Rémi Douence
          Narendra Jussien

Published in:
  Proceedings of the 17th IEEE international conference on Automated software engineering
  ASE '02 2002 ISBN:0-7695-1736-6

To understand the behavior of a program, a maintainer reads some code, asks a question about this code, conjectures an answer, and searches the code and the documentation for confirmation of her conjecture. However, the confirmation of the conjecture can be error-prone and time-consuming because the maintainer has only static information at her disposal. She would benefit from dynamic information. In this paper, we present Caffeine, an assistant that helps the maintainer in checking her conjecture about the behavior of a Java program. Our assistant is a dynamic analysis tool that uses the Java platform debug architecture to generate a trace, i.e., an execution history, and a Prolog engine to perform queries over the trace. We present a usage scenario based on the n-queens problem, and two real-life examples based on the Singleton design pattern and on the composition relationship.