**Week 5: Review and Analyze Conference Venue Review**

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# Describe the types of papers presented/research conducted at the venue

The International Conference on Software Engineering focuses on software engineering trends and explores the implications of those decisions.

# Describe each track and types of papers that are submitted to each track

The 2019 conference will have tracks (ICSE, 2019):

* Technical
  + A forum for original or unpublished results that expand SE
* Software Engineering in Practice (SEIP)
  + A forum for discussing insights around the usage of SE
* Demonstrations
  + Discussions around tooling and concrete implementations
* Journal-First
  + A forum to discuss published papers which have not been demonstrated yet
* New Ideas and Emerging Results (NIER)
  + A forum for early stage research and its potential applications
* Software Engineering Education and Training (SEET)
  + A forum for improving education and training methodologies
* Software Engineering in Society (SEIS)
  + A forum for discussing the role of SE within economics, politics, and environmental scenarios

# Paper 1: Magnus Frodigh 2018 Keynote

## What problems did they solve?

The presenter described the implications of 5G wireless being available in industrial IoT scenarios (Frodigh, 2018). For example, factories can be designed to expose sensor networks. This will lead to large amounts of data that AI will use to reason across a cohort of decisions such as safety and power efficiency.

## What was their method?

The presenter makes the case for edge computing and a blurring of the line between public and private clouds. As terabyte per second uplinks become available data can be stored where it is most efficient.

## What are areas of future work/improvement?

## What other works does this expand?

The presentation describes the journey that networking has taken, and the technical achievements required to continue going forward.

## Why is this important?

Frodigh is outlining the roadmap for how the world will be shaped by ultra-fast networking. Having a solid understanding of what is likely to come tomorrow can help us prepare today.

# Paper 2: Code Review Comments: Language Matters

## What problems did they solve?

Effective code review comments improve the communication efficiency between involved parties (Efstathiou & Spinellis, 2018).

## What was their method?

Code review comments can be up voted by the community. The presenters used Natural Language Processing (NLP) to identify correlations between language structure and high scores.

## What are areas of future work/improvement?

The researchers are in the early investigation phase and need to review more projects, so the AI can consume more examples. Their approach is also specific to English and might need additional modifications to support international scenarios.

## What other works does this expand?

Existing research into text mining of code review comments has focused on sentence length and sentimental analysis.

## Why is this important?

Sentimental analysis is not effective with code review comments as business policies often mandate a neutral emotional tone. Instead the researches focused on language which describes cause and effect scenarios.

# Paper 3: Are Code Examples on an Online Q&A Forum Reliable?

## What problems did they solve?

Websites such as Stack Overflow allow software engineers to share code snippets, and the community will up vote recommended solutions. It is then assumed that highly voted snippets are reliable, however empirical data to quantify that assertion does not exist (Zhang, Upadhyaya, Reinhardt, Rajan, & Kim, 2018).

## What was their method?

The authors downloaded hundreds of thousands of posts from Stack Overflow, then parsed the code snippets into patterned expressions. The patterns were then compared against a database of expected usages.

## What are areas of future work/improvement?

The research attempts to make a generalized statement that 31% of snippets have at least one or more issue. This is determined by looking at one language on one site and might not provide the full picture.

## What other works does this expand?

Previous efforts explored snippet quality from the qualitative perspective.

## Why is this important?

The researchers automated the manual inspection process which enabled a larger corpus to be examined.

# References

Efstathiou, V., & Spinellis, D. (2018, May 30). *Code Review Comments: Language Matters.* Retrieved from arXiv: https://arxiv.org/pdf/1803.02205.pdf

Frodigh, M. (2018, May 30). *Live from ICSE: Conference Opening + Keynote from Nagnus Frodigh.* Retrieved from YouTube: https://www.youtube.com/watch?v=cpeMmMh7Syk

ICSE. (2019). *ICSE 2019 Paper Presentations.* Retrieved from ICSE Conferences: https://2019.icse-conferences.org/track/icse-2019-Paper-Presentations

Zhang, T., Upadhyaya, G., Reinhardt, A., Rajan, H., & Kim, M. (2018). Are Code Examples on an Online Q&A Forum Reliable? *Proceedings of ICSE ’18: 40th International Conference on Software*. Retrieved from UCLA.