Ajay Kumar Jha
Curriculum Vitae

Software Maintenance and Reuse (SMR) Lab.
University of Alberta
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https://hifromajay.github.io/

Research Interests

I am interested in software engineering and mobile security, specifically software testing, program analysis, mining software repositories, empirical software engineering, and Android app security.

Academic Research Positions

Postdoctoral Researcher (March 2020 – Present)
University of Alberta, Edmonton, Alberta, Canada

Postdoctoral Researcher (March 2017 – February 2020)
Kyungpook National University, Daegu, Republic of Korea

Education

Ph.D. in Computer Science, February 2017
> Kyungpook National University, Republic of Korea
> Thesis: Enhancement of reliability and security of inter-component communications in Android

M.S. in Computer Science, August 2013
> Kyungpook National University, Republic of Korea
> Thesis: Reproducing crash in Android applications using capture and replay technique

B.Sc. in Information Technology, January 2004
> Sikkim Manipal University of Health, Medical & Technological Sciences, India

Publications

- **Ajay Kumar Jha** and Sarah Nadi. Annotation practices in Android apps. In *Proceedings of 20th International Working Conference on Source Code Analysis and Manipulation (SCAM)*, pp. 132-142. IEEE, 2020.

- Sooyong Jeong, **Ajay Kumar Jha**, Youngsul Shin, and Woo Jin Lee. A log-based testing approach for detecting faults caused by incorrect assumptions about the environment. *IEICE Transactions on Information and Systems*, 103.1 (2020), pp. 170-173.

- **Ajay Kumar Jha**, Sunghee Lee, and Woo Jin Lee. An empirical study of configuration changes and adoption in Android apps. *Journal of Systems and Software (JSS)*. 156 (2019), pp. 164-180.

- **Ajay Kumar Jha**, Sunghee Lee, and Woo Jin Lee. Characterizing Android-specific crash bugs. In *Proceedings of the 6th IEEE/ACM International Conference on Mobile Software Engineering and Systems*, pp. 111-122. IEEE Press, 2019.

- **Ajay Kumar Jha**, Deok Yeop Kim, and Woo Jin Lee. A framework for testing Android apps by reusing test cases. In *Proceedings of the 6th IEEE/ACM International Conference on Mobile Software Engineering and Systems*, pp. 20-24. 2019. Vision Track.

- **Ajay Kumar Jha** and Woo Jin Lee. An empirical study of collaborative model and its security risk in Android. *Journal of Systems and Software (JSS)*. 137 (2018), pp. 550-562.

- **Ajay Kumar Jha**, Sunghee Lee, and Woo Jin Lee. Developer mistakes in writing Android manifests: An empirical study of configuration errors. In *Proceedings of the 14th International Conference on Mining Software Repositories,* pp. 25-36. IEEE Press, 2017.

- **Ajay Kumar Jha** and Woo Jin Lee. Analysis of permission-based security in android through policy expert, developer, and end user perspectives. *Journal of Universal Computer Science*, vol. 22, no. 4, pp. 459-474, 2016.

- **Ajay Kumar Jha**, Sunghee Lee, and Woo Jin Lee. Modeling and test case generation of inter-component communication in android. In *Proceedings of the Second ACM International Conference on Mobile Software Engineering and Systems,* pp. 113-116. IEEE Press, 2015.

- **Ajay Kumar Jha**, Sooyong Jeong, and Woo Jin Lee. Value-deterministic search-based replay for android multithreaded applications. In *Proceedings of the 2013 Research in Adaptive and Convergent Systems,* pp. 381-386. ACM, 2013.

- **Ajay Kumar Jha** and Woo Jin Lee. Capture and replay technique for reproducing crash in android applications. In *Proceedings of the 12th IASTED International Conference in Software Engineering,* pp. 783-790. 2013.

Industrial Experience
Unified Technology Consultancy, Nepal. Co-founder (February 2009 – June 2011)
   Responsibilities - business development and project management

V2Soft, India. Business Development Manager (March 2008 – August 2008)
   Responsibility - business development

FoxsysTech, India. Business Development Manager (September 2007 – January 2008)
   Responsibilities - business development and project management

MindproSoft, India. Co-founder (November 2005 – August 2007)
   Responsibilities - programming, project management, and business development

Awards and Fellowships
BrainKorea21 (September 2011 – February 2017)
   Human resource development funding program initiated by the Korean government.

KNU Honors Scholarship (September 2013 – August 2015)
   Kyungpook National University scholarship for the Ph.D. program.

KNU Honors Scholarship (September 2011 – February 2013)
   Kyungpook National University scholarship for M.S. program.

Students Co-supervision
Ph.D.   **Mohayeminul Islam**, University of Alberta (Oct 2021 - current)
Ugrad RA   **Xichen Pan**, University of Alberta (May 2021 – Sep 2021)
Masters   **Batyr Nurryev**, University of Alberta (July 2020 - current)
Ph.D.   **Sooyong Jeong**, Kyungpook National University (March 2017 – Feb 2020)

Services
PC Member
   2022 - MSR (Research track), MobileSoft (Research track), SANER (ERA track)
   2021 - ASE (Artifact track), FSE (Artifact track), MSR (Research track), SANER (ERA track)

Reviewer
   2021 - IEEE Transactions on Software Engineering, Empirical Software Engineering Journal
   2020 - Journal of Software: Practice and Experience

Sub-reviewer
   2020 - IEEE Transactions on Software Engineering

References

Prof. Woo Jin Lee (M.S. and Ph.D. Advisor)
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Prof. Yunja Choi (Ph.D. Thesis Committee Member)
Software Safety Engineering Lab, Kyungpook National University, Daegu, Republic of Korea
Email: yuchoi76@knu.ac.kr   Tel: +82 53-950-7549

Prof. Sarah Nadi (Postdoc Advisor)
Software Maintenance and Reuse (SMR) Lab, University of Alberta, Edmonton, Alberta, Canada
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