

Amendra Shrestha

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Results-driven data scientist with years of professional experience executing data-driven solutions to increase efficiency, accuracy, and utility of internal data processing. Experienced at creating data regression models, using predictive data modeling, and analyzing machine learning algorithms to deliver insights and implement action-oriented solutions to complex problems.

Ability to perform data analysis, predictive modeling, and provide risk analysis.

PROFESSIONAL SUMMARY

- Ability to work with multiple programming languages.
- Sound knowledge of database design techniques.
- Worked as freelancer for developing dynamic web pages using PHP and MySQL.
- Familiarity with Agile Methodology, Test-Driven Development and Design Patterns.
- Good knowledge of algorithms and data structures.
- Solution-oriented person and a rapid learner with excellent communication and interpersonal skills.

RELEVANT WORK EXPERIENCE:

Post-doctoral researcher

Uppsala University, Uppsala, Sweden

June 2020 – present

Post-doctoral researcher

Uppsala University, Uppsala, Sweden

June 2019 – May 2020

- Accessing risk in written communication.
- Using linguistic and machine learning approaches for detecting threats in text data.
- Create a tool for assessing the risk of targeted violence in written communication.

Project Assistant

Uppsala University, Uppsala, Sweden

April 2013 – February 2014

- Working on detecting multiple aliases in social media.
- Using data mining and machine learning approaches for recognizing users on social media.
- Member of Security Arena.

Degree Project Worker

Uppsala University, Uppsala, Sweden

August 2012 – January 2013

Performed a Master thesis work on Visualizing and Analyzing users on discussion boards.

- Investigated the available toolkit for visualizing large set of social media data.
- Created an efficient parser in java for parsing large RDF files and inserted parsed data into normalized MySQL tables.
- Developed an interactive information visualization prototype capable of visualizing and analyzing the users of discussion boards.

Data Analyst/ Production Engineer

D2Hawkeye Services Pvt. Ltd.

Subsidiary of Verisk Health Inc. USA, Kathmandu, Nepal

September 2008 – August 2010

- Developed SQL/Oracle scripts for performing data analysis, predictive modeling and risk analysis solution to the clients across the healthcare spectrum (MS SQL 2005/2008, Oracle 10g).

- Worked in a group with the Scrum software development process. Optimized code with peer reviews and conducted unit testing, integration testing, and compatibility testing.
- Implemented major improvements in automation of importing/exporting data and data integrity checks. This helped to improve the productivity of the team by 30%.
- Importing the raw data of US health care into systemized tables, analyzing the data and extracting the useful information and makes it ready for delivering to the client in the form of formal web interface.

Intern

Bikalpa Catalyst, Kathmandu, Nepal

May 2008 – August 2008

- Designed & implemented “Project Management System” which is responsible for analysis and dividing the work token to different workers within the office. (Java and MySQL).
- Development of software using Object Oriented Design Pattern.

EDUCATION:

Doctor of Philosophy in Computer Science

Thesis: Techniques for analyzing digital environments from a security perspective

Uppsala University, Uppsala, Sweden

March 2014 - May 2019

Master of Science in Computer Science

Thesis: Visualization and Detection of Multiple Aliases in Social Media

Uppsala University, Uppsala, Sweden

August 2010 - January 2013

Bachelor of Engineering in Computer Science

Kathmandu University, Dhulikhel, Nepal

August 2004 – July 2008

TECHNICAL SKILLS:

Languages: Python, PHP, Java, C, C#, R

Database: MS SQL Server 2005/2008, Oracle 10g, MySQL, MongoDB, XML, MS Office Access

Internet & Communication: HTML, JavaScript, jQuery, CSS

Design: Photoshop, Adobe Illustrator

System: Mac OS, Linux, Windows

PUBLICATIONS:

Peer-reviewed journals

- A. Shrestha, L. Kaati, K. Cohen. Extreme adopters in digital communities. In *Journal of Threat Assessment and Management*, 7(1-2), 72–84, 2020.
- F. Johansson, L. Kaati, and A. Shrestha. Timeprints for identifying social media users with multiple aliases. In *Security Informatics*, volume 4, pp 7:1-11, 2015.

Peer-reviewed conference proceedings

- A. Shrestha, N. Akrami, L. Kaati. Introducing Digital-7: Threat Assessment of Individuals in Digital Environments. 2020 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), 2020.
- A. Shrestha, L. Kaati, and N. Akrami, PRAT - a Tool for Assessing Risk in Written Communication, 2019 IEEE International Conference on Big Data (Big Data), Los Angeles, CA, USA, 2019.
- N. Akrami, A. Shrestha, M. Berggren, L. Kaati, M. Obaidi, and K. Cohen. Assessment of Risk in Written Communication Introducing the Profile Risk Assessment Tool (PRAT), 2nd European Counter-Terrorism

- Centre (ECTC) Advisory Group conference, Europol, 2018.
- A. Shrestha, L. Kaati, and K. Cohen. A Machine Learning Approach Towards Detecting Extreme Adopters in Digital Communities. The 1st International Workshop on Advanced ICT Technologies for Secure Societies (AICTSS), 2017
- L. Kaati, T. Sardella, and A. Shrestha. Identifying Warning Behaviors of Violent Lone Offenders in Written Communication. In Proc. 16th ICDM Workshops, 2016
- K. Cohen, L. Kaati, and A. Shrestha. Linguistic Analysis of Lone Offenders Manifestos. In proceeding of Cybercrime and Computer Forensic (ICCCF), 2016
- M. Ashcroft, F. Johansson, L. Kaati, and A. Shrestha. Multi-Domain Alias Matching Using Machine Learning. In: Proc. 3rd European Network Intelligence Conference, IEEE, (ENIC), 2016
- K. Cohen, L. Kaati, S. Lindquist, and A. Shrestha. Automatic detection of xenophobic narratives: A case study on Swedish alternative media. In proceedings of Intelligence and Security Informatics (ISI), 2016
- L. Kaati, E. Omer, N. Prucha, and A. Shrestha. Detecting multipliers of jihadism on twitter In Proc. 15th ICDM Workshops, pp 954-960, IEEE Computer Society, 2015.
- M. F. Atig, S. Cassel, L. Kaati, and A. Shrestha. Activity Profiles in Online Social Media, In proceedings of International Conference in Social Network Analysis and Mining (ASONAM), 2014.
- F. Johansson, L. Kaati, and A. Shrestha. Timeprints for identifying social media users with multiple aliases, In proceedings of European Intelligence and Security Informatics Conference (EISIC), 2014. (Best Paper Award)
- F. Johansson, L. Kaati, and A. Shrestha. Detecting Multiple Aliases in Social Media, In proceedings of International Conference in Social Network Analysis and Mining (ASONAM), 2013.

Research reports

- L. Kaati, K. Cohen, N. Akrami, A. Shrestha, J. Fernquist, B. Pelzer, F. Welander, and T. Isbister. Digitalt slagfält: en studie av radikalnationalistiska digitala miljöer. Totalförsvarets forskningsinstitut (FOI), 2019.
- L. Kaati, N. Akrami, and A. Shrestha. Automatic Hate Speech Detection: Challenges and Opportunities, *In Courage against hate*, chapter 4, pages 57-69. Facebook, 2021

AWARDS AND HONOURS:

- Best Paper Award in European Intelligence and Security Informatics Conference 2014.
- Best Poster Award in European Intelligence and Security Informatics Conference 2013.
- “Gästrik-Hälsinge Nation” stipend from Uppsala University for Fall Semester 2012.
- Blomquist stipend from Gästrik-Hälsinge nation, Uppsala, Sweden.
- Nordplus scholarship from International Office Uppsala University, Uppsala, Sweden.

VOLUNTEERING ACTIVITIES:

- Local Arrangement Chair at EISIC 2016 held on Uppsala University, Uppsala, Sweden.
- Local Arrangement Chair at EISIC 2013 held on Uppsala University, Uppsala, Sweden.
- Support Staff in an international research evaluation conducted by Uppsala University on 2011.
- KUCC Volunteering - Photoshop tutor for the Computer Education to local student of Dhulikhel, organized by Kathmandu University Computer Club.
- Designer - Student Welfare Council, Kathmandu University.

REFERENCE:

- Lisa Kaati, Swedish Defence Research Agency, Decision Support Systems, lisa.kaati@foi.se, +46 70-482 2573
- Nazar Akrami, Department of Psychology, Perception and Cognition, Uppsala University, nazar.akrami@psyk.uu.se, +46 73-6895309
- Mohamed Faouzi Atig, Department of Information Technology, Division of Computer Systems, Uppsala University, mohamed_faouzi.atig@it.uu.se, +46 18-471 3159