

# Awais Ashfaq

---

CONTACT INFORMATION Fagelvagen 6F, Lgh 1201 +46 729 773 770  
302 37 Halmstad. awais.ashfaq@outlook.com  
Sweden. www.awaisashfaq.com

SUMMARY I am a biomedical engineer, pursuing PhD in machine learning in medicine. I do research in intelligible outcome prediction models fuelled by Electronic Health Records (EHRs). The goal is to discover factors responsible for adverse clinical events to facilitate informed decision support, which in turn will improve patient outcomes and curb unnecessary care costs.

EDUCATION **Halmstad University and Region Halland, Sweden**

PhD student [Oct 2016 - present](#)

- Thesis (Licentiate): *Predicting clinical outcomes via machine learning on electronic health records.*
- Advisors: Slawomir Nowaczyk PhD and Markus Lingman MD PhD

**KTH Royal Institute of Technology, Sweden**

M.S. Medical Engineering [Sep 2014 - Sep 2016](#)

- Scope: Medical information systems, Human physiology, Machine learning, Neural networks, Ergonomics, Patient safety regulations
- Thesis: *Segmentation of cone beam CT images in stereotactic radiosurgery using deep convolutional neural networks*
- Advisors: Jonas Adler and Pawel Herman PhD

**National University of Sciences and Technology, Pakistan**

B.S. Electrical Engineering [Aug 2009 - July 2013](#)

- Scope: Signal processing, Wireless communication networks, Control theory, Electrical system modelling and Project management.

RECENT PUBLICATIONS A. Ashfaq, A. Sant'Anna, M. Lingman and S. Nowaczyk. "Readmission prediction using deep learning on electronic health records" *Journal of Biomedical Informatics. published. 2019*

M. Blom, A. Ashfaq, A. Sant'Anna, P. Andersson and M. Lingman. "Training machine learning models to predict 30-day mortality in patients discharged from the Emergency Department: A retrospective, population-based registry study" *BMJ Open. published. 2019*

A. Ashfaq and S. Nowaczyk. "Machine learning in healthcare - a system's perspective." *epiDAMIK: Epidemiology meets Data Mining and Knowledge discovery SIGKDD. published. 2019*

A. Ashfaq. Predicting clinical outcomes via machine learning on electronic health records. Licentiate Diss. Halmstad University Press. *published. 2019*

A. Ashfaq, S. Lönn, ..., and M. Lingman. "Data Resource Profile: Regional Healthcare Information Platform in Halland, Sweden" *International Journal of Epidemiology. published. 2019*

Z. Yasin, ..., A Ashfaq, B. Agvall. "Heart failure patients receiving care according to national guidelines have lower total costs – an observational study in Region Halland, Sweden" *European Heart Journal - Quality of Care and Clinical Outcomes. submitted. 2019*

# Awais Ashfaq

---

CONTACT INFORMATION Fagelvagen 6F, Lgh 1201 +46 729 773 770  
302 37 Halmstad. awais.ashfaq@outlook.com  
Sweden. www.awaisashfaq.com

WORK EXPERIENCE **Elekta Instruments AB**, Sweden

Thesis student, Research and Physics Jan 2016 - Sep 2016

- Implemented fuzzy logic and deep learning based segmentation techniques to improve image quality of Cone Beam CT system which is used to determine patient position in Leksell Gamma Knife Icon.

Team leader: Jonas Adler

**Advanced Technology Company**, Kuwait

Field service engineer, Diagnostic imaging Aug 2013 - Aug 2014

- A site based role for problem solving, installations and maintenance of molecular imaging devices.

Team leader: Usman Sarwar

TECHNICAL HIGHLIGHTS

- **Data science:** Proficient in machine and deep learning tools for images and longitudinal EHR analysis including natural language processing.
- **Programming:** Python, Pytorch, R, Matlab, SQL, Excel and basic CUDA.
- **Presentation:** Participation and/or presentation in multiple research venues: epiDAMIK SIGKDD 2019, DS3 2019, ICBBT 2018, CMBEBIH 2017, DeepLearn 2017

EXTRA-CURRICULAR

- Teaching: Matlab (BS), Applied Data Mining course project (MS), Thesis project (MS) 2017 - present
- External reviewer: Scientific Reports, Journal of Biomedical Informatics, Physica Medica, International Journal of Information Technology and Decision Making 2019 - present
- Representative of health and work environment for Doctoral education in Halmstad University 2018-19
- Academic based scholarship in Masters at KTH, Sweden. 2015
- Runners up 'All Pakistan Prime Ministers Entrepreneur Challenge'. 2012
- CCNA exploration Discovery by Cisco. 2012
- Best prize in speed programming competition in NUST. 2011
- 'All Pakistan Best Debater' prize 2008

**Languages:** Fluent in English and Urdu. Beginner in Swedish and Arabic