Danielle Saunders

PhD student, Cambridge University Engineering Department

## Employment

Mar-Jun 2018 — Intern at SDL Translation, Cambridge
*Machine Translation*
Implementing various neural machine translation techniques from recent literature using Python and the Tensorflow framework.

Jul-Sep 2016 — Intern at Siri Group, Apple, Cambridge
*Machine Learning*
Project combining recurrent neural network models with dialogue data, using Tensorflow as main framework.

Sponsored student at Frazer-Nash Consultancy, Dorking

Jul-Sep 2015 — *Technology Management*
Requirements research; extending existing software projects for use in future bids; developing intranet licensing tool

Jul-Sep 2014 — *Engineering Software*
Modelling in Matlab / Simulink; scheduling optimization project; software testing

Jul-Sep 2013 — Intern at Metaswitch Networks, London
*Communications Software*
Software engineering: server resynchronization project and GUI for customer-facing dashboard. Worked in Java / Java Swing

## Education

2016-2020 — PhD in Engineering, University of Cambridge
Neural and statistical machine translation (EPSRC funded)
Supervised by Bill Byrne

Current interests: Domain adaptation for machine translation, sentence representations for language generation and translation, use of syntactic annotation

Teaching: 2nd year undergraduate Information Engineering course

2012-2016 — MEng Information & Computer Engineering, University of Cambridge
Honours with Distinction

Final project: *Improving keyword spotting for low-resource languages*
Identifying specific words and phrases in speech, focusing on out-of-vocabulary keyword recognition using subword units

Taught modules: including machine learning, statistical pattern processing, software engineering, speech & language processing, computer vision

Software engineering projects: including text sentiment analysis, audio denoising, group project developing circuit simulator with domain-specific language

## Computer Skills

Languages: Python, Java, C#, Matlab
Experience using Linux, MacOS and Windows

## Publications

Felix Stahlberg, Danielle Saunders, and Bill Byrne. An operation sequence model for explainable neural machine translation. In *EMNLP Workshop BlackboxNLP: Analyzing and Interpreting Neural Networks for NLP*, pages 175–186, 2018

D Saunders, F Stahlberg, A de Gispert, and B Byrne. Multi-representation ensembles and delayed SGD updates improve syntax-based NMT. In *ACL*, pages 319–325, 2018

F Stahlberg, D Saunders, G Iglesias, and B Byrne. Why not be versatile? Applications of the SGNMT decoder for machine translation. In *AMTA*, page 208, 2018

F Stahlberg, E Hasler, D Saunders, and B Byrne. SGNMT – a flexible NMT decoding platform for quick prototyping of new models and search strategies. In *EMNLP*, pages 25–30, 2017

A Ragni, D Saunders, P Zahemszky, J Vasilakes, MJF Gales, and KM Knill. Morph-to-word transduction for accurate and efficient automatic speech recognition and keyword search. In *ICASSP*, pages 5770–5774, 2017