

## SUMMARY

Motivated applied AI leader with more than 10 years of experience in Natural Language Processing and Machine Learning. Team player dedicated to promoting a culture of trust and personal growth. Proven track record of bringing evidence-based innovation into products.

## LEADERSHIP HIGHLIGHTS

- A proven record of enabling innovation through aligning product goals with science capabilities.
- Years of experience in communicating complex scientific concepts to senior leaders and a wide range of stakeholders.
- Built a science team of 6 from the ground up, establishing a culture of trust, innovation, and professional growth.
- Established academic publishing as part of product decision-making based on empirical evidence.

## MAJOR PROJECTS

### Note Assistant

2019-2022

My team was part of a wider cross-functional product team that designed and delivered a live consultation summarisation system for Babylon's Clinical Portal, which *decreased the documentation time during consultations with nurses by 17%*.

- We followed a double-diamond product design strategy, to deliver a product feature improving the clinician's efficiency and experience.
- Our data preparation, model architecture, and release strategy had to balance our delivery goals against Data Privacy and Clinical Safety regulations.
- I designed a protocol that made human evaluation more reliable and up to 50% more efficient.
- Consistently published all notable experiments within the bounds of the commercially prudent.
- Co-supervised a Babylon-funded industrial PhD for one of my reports (submission expected in H1 2023).

### Clinical Information Extraction Stack

2018-2022

My team and I designed, delivered, and maintained the clinical information extraction system that underpins multiple Babylon technologies and products (e.g. intent recognition, health graph, consultation summarisation).

### Hammurabi (hmrbi)

2018-2022

I co-wrote an [open-source](#) rule engine for information extraction. It used a proprietary regular language grammar to empower clinicians to easily write clinical safety rules supporting the Intent Recognition stack.

## TECHNOLOGIES

ML • Huggingface • PyTorch • deepspeed • Keras  
Python • spaCy • NLTK • FastAPI • Flask • Cython  
CI • Docker • Kubernetes • CircleCI • GitHub Actions  
Data • MySQL • PostgreSQL • Redis • Kafka • MongoDB  
Cloud • AWS • GCP

## EXPERIENCE

### AI Consultant (contracts)

*Cool Den AI, March 2023 until present*

I help startups improve their use of AI, from the deployment of machine learning models to their AI product strategy.

### Applied AI Research Manager

*Babylon Health, Jun 2019 to Dec 2022*

As a leader, I aligned our research work closer to the product needs, promoted an end-to-end ownership model for AI services, and introduced product design best practices to our development process.

### Senior NLP Scientist

*Babylon Health, Dec 2018 to May 2019*

As the tech lead of the NLP squad, I was focused on supporting the Chatbot product through Information Extraction and Intent Recognition technologies. In addition was part of setting up Babylon's Speech Processing.

### NLP Scientist

*Babylon Health, Feb 2017 to Nov 2018*

I led the modernisation of the Information Extraction stack, moving it to Python and allowing it to interface with bleeding-edge technologies. Additionally, I designed the hiring process for the NLP team.

### Data Scientist

*Datamaran, Sep 2015 to Jan 2017*

I designed and delivered a news analytics module for the Datamaran platform, based on a streaming data ingestion system.

### Research Assisstant

*Bulgarian Academy of Sciences, Apr 2010 to Dec 2011*

I worked on a Bulgarian-English machine translation system.

## SELECTED PUBLICATIONS

Google Scholar: <http://scholar.sasho.io>

- *Consultation Checklists: Standardising the Human Evaluation of Medical Note Generation, Savkov et al. 2022, EMNLP.*

- *User-Driven Research of Medical Note Generation Software, Knoll et al. 2022, NAACL. (Best Paper Award)*

- *Primock57: A dataset of primary care mock consultations, Korfiatis et al. 2022, ACL*

- *Don't Settle for Average, Go for the Max: Fuzzy Sets and Max-Pooled Word Vectors, Zhelezniak et al. 2019, ICLR*

## EDUCATION

### University of Sussex

*PhD in Clinical NLP, 2012-2015*

### University of Tübingen

*BA & MA in Computational Linguistics, 2003-2009*