Filip **Hrenić**

PRODUCTION ENGINEER · SITE RELIABILITY ENGINEER

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Experience

Facebook   *London, United Kingdom*

PRODUCTION ENGINEER   *Nov 2018 - Present*

- **Elasticsearch** (Jan 2020 - Present)
    - designing, building and maintaining all of Elasticsearch infrastructure at Facebook
    - working with teams using Elasticsearch to understand their needs and onboard them
    - designed cluster architecture and integration with Facebook systems; entire cluster lifecycle management
    - implemented a continuous integration and deployment solution for Elasticsearch clusters - CI/CD pipelines with custom monitoring and push strategies
    - security for Elasticsearch clusters - carried out threat model analysis, configured TLS, implemented ACLs (access control lists - authorization)
- **Vulnerability Management** (Nov 2018 - Jan 2020)
    - building distributed systems architecture to discover and manage vulnerabilities in all of Facebook infrastructure
    - helping build "Vulnerability Management-as-a-Service" - self serviced vulnerability discovery, monitoring and alerting
    - working with external partners (companies) on integrating multiple vulnerability providers into our system to broaden coverage and increase discovery speed
    - cross functional work with numerous other teams to help them surface vulnerabilities in their libraries/repositories/services/hosts and helping them remediate
    - one of the core maintainers of Facebook's opensource tools and libraries for managing vulnerability data (nvdtools)
- **Misc**
    - interviewing candidates for jobs at Facebook - coding and systems (Linux) interviews for engineers
    - primary point of contact ("bootcamp mentor") for Facebook newcomers - assigning tasks, tracking progress, helping with team selection, introducing the Facebook culture
    - helping new team members with onboarding - finding tasks and projects, explaining how the systems work, etc.
    - presenting on internal conferences at Facebook
    - presented my life journey as an engineer to numerous Middle schools across the UK, as part of the Primary Engineer Programme

Twitter   *San Francisco, California*

HADOOP INFRASTRUCTURE INTERN   *Jun 2018 - Aug 2018*

- worked on detecting bad hadoop data nodes and automating remediations
- developed a more efficient way to extract metrics from log files
- set up monitoring and alerting for newly exposed metrics
- implemented a highly configurable and easy to use health check framework in Python
- Technologies: Python, Puppet, git, Bash tools & scripting

Facebook   *London, United Kingdom*

PRODUCTION ENGINEER INTERN   *Sep 2017 - Nov 2017*

- Windows Developer Infrastructure team, supporting Oculus team
- worked on a system which would enable taking snapshots of virtual machines used for ephemeral tasks, like running tests
- sped up the process of cleaning the VM and returning it to a healthy state, instead of provisioning it all over again
- Technologies: Python, BTRFS, QEMU, Hack, internal tools

University of Zagreb, Faculty of Electrical Engineering and Computing   *Zagreb, Croatia*

UNDERGRADUATE AND GRADUATE TEACHING ASSISTANT   *Oct 2013 - Mar 2018*

- helping other students to learn and overcome difficulties in following classes:
- 2017/2018 - Operating Systems
- 2016/2017 - Digital Logic, Software Design, Internet Security, Artificial Intelligence, Network Programming, Basics of Java Programming Language, Introduction to Knowledge Management, Distributed Big Data Processing
- 2015/2016 - Mathematics 3, Probability and Statistics
- 2014/2015 - Mathematics 1&2, Digital Logic, Programming and Software Engineering, Algorithms and Data Structures, Electronics 1
- 2013/2014 - Mathematics 1, Digital Logic

Sofascore
Zagreb, Croatia

RESEARCH AND DEVELOPMENT ENGINEER
Dec 2015 - Sep 2017

- developed a machine learning model for classifying users which enabled admins and moderators to monitor chat rooms with many "bad" users (swearing, posting fake scores, ...)
- developed a system which would detect others scraping the website
- created and developed the initial infrastructure for aggregation and querying of football player statistics

Genome Institute of Singapore
Singapore

RESEARCH OFFICER
Jul 2015 - Sep 2015

- used customized mathematical models for simulating intraspecies interactions in the human microbiome
- presented scientific papers on that subject to the entire team
- Technologies: MatLab, Python

Education

University of Zagreb, Faculty of Electrical Engineering and Computing
Zagreb

MASTER'S DEGREE, TELECOMMUNICATIONS AND INFORMATIONS
Oct. 2016 - Sep. 2018

- Thesis: Design of the IPv4 Routing System Based On Field-Programmable Gate Arrays
- GPA: 4.70/5

University of Zagreb, Faculty of Electrical Engineering and Computing
Zagreb

BACHELOR'S DEGREE, COMPUTER SCIENCE
Oct. 2013 - Jul. 2016

- Thesis: Detection of Inappropriate Messages in Online Chats
- GPA: 4.86/5
- Additional courses: Discrete and Continuous mathematics, Programming in Haskell, Introduction to Java Programming Language, Object Oriented Programming, Basic use of Linux Operating System, Advanced use of Linux Operating System

Honors & Awards

Google & Udacity
Zagreb, Croatia

ANDROID PROGRAMMER PATH SCHOLARSHIP
Jan 2017

- Google's Associate Android Developer Certification

"Stipo Lozić-Baškarad" Foundation
Zagreb, Croatia

SCHOLARSHIP FOR TALENTED STUDENTS
Oct 2015 - Oct 2018

- "... advanced undergraduate, graduate and postgraduate students in mechanical, electrical and traffic sciences ..."

A*STAR
Singapore, Singapore

SINGAPORE INTERNATIONAL PRE-GRADUATE AWARD (SIPGA)
Jul 2015

- "... short-term research attachments for international students ..."

Faculty of Electrical Engineering and Computing
Zagreb, Croatia

"JOSIP LONČAR" AWARD - BEST STUDENTS IN CLASS (TOP 1%)
Nov 2014 - Nov 2016

- Academic year 2015/2016 (third year of study)
- Academic year 2014/2015 (second year of study)
- Academic year 2013/2014 (first year of study)

Rotary International
Varaždin, Croatia

HIGH SCHOOL EXCELLENCE AWARD
May, 2013

- Award for best high school students in class

Skills

Languages	Golang, Python, Java, C, PHP, Bash
Technologies	git, mercurial, Linux, Elasticsearch, MySQL, PostgreSQL, Hadoop, Vagrant, Docker, Spring
Interests	Hiking, skiing, tennis; cognitive psychology, NLP