Jacob Chvatal

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EDUCATION

NORTHEASTERN UNIVERSITY
B.S. IN COMPUTER SCIENCE
Expected May 2022 | Boston, MA
Khoury College of Computer Sciences
Dean's List (Fall 2018, Spring 2019)
Cum. GPA: 3.525 / 4.0
Major GPA: 3.452 / 4.0

LINKS

GitHub:// **jakechv**
LinkedIn:// **jacob-chvatal**
Twitter:// **@jakechvatal**

COURSEWORK

GRADUATE
Algorithms

UNDERGRADUATE
Artificial Intelligence
Computer Systems
Theory of Computation
Object-Oriented Design
Programming Languages
Compilers
Discrete Mathematics
Linear Algebra
Research

SKILLS

PROGRAMMING
Over 5000 lines:
Java • Shell • JavaScript • Haskell
OCaml • Python • HTML/CSS
Over 1000 lines:
TypeScript • C • C++ • SQL • Assembly
Familiar:
Android • Coq • ACL2 • LaTeX

TECHNOLOGIES
Experienced:
(Arch/Debian) Linux • Docker • React
Familiar:
NixOS • Plan9 • SQLite • Angular

EXPERIENCE

SKIRA TECH | SOFTWARE ENGINEERING INTERN
Expected August 2020 – Dec 2020 | Stockholm, Sweden
Developing a service to connect grain farmers to buyers, utilizing machine learning to advocate for fair grain prices in Sweden and Scandinavia.

INTEL CORPORATION | SOFTWARE ENGINEERING INTERN
May 2020 – August 2020 | Hillsboro, OR
- Developing a data management service for a distributed video analytics system.
- Interfaced with a graph database system via Python, Protobuf and Docker.

NORTHEASTERN UNIVERSITY | CS 'FUNDIES' 1 AND 2 TUTOR
Jan 2019 - May 2020 | Boston, MA
Taught introductory functional programming concepts, data structures and OOP paradigms in Racket's ISL and Java with advanced content.

CDK GLOBAL | SOFTWARE DEVELOPNENT INTERN
June 2018 – Aug 2018 | Portland, OR
- Led development of React & Spring Boot web app w/ Material UI components
- Utilized Docker and nginx to containerize and host application through CDK

PORTLAND STATE UNIVERSITY | STUDENT INTERN
June 20217 – Aug 2017 | Portland, OR
- Impl. C++ library to compress and apply linear algebra to sparse matrix data
- Applied matrix operations to analyze and graph large 3D mesh structures
- Distr. code to COEUS supercluster w/ OpenMP parallel programming pragmas

RESEARCH

NU SANDBOX | DEVELOPER AND PROJECT LEAD
May 2019 - Present | Boston, MA
- Managed team for a CV app to analyze ELISA vials for chem. experiments
- Used Python's Kivy framework, Android's JDK and OpenCV
- Founded GraduateNU, a schedule planning system for NEU students
- Worked on an Android app to fetch accel. and activity data for a psych lab

PROJECTS

FUNCTIONAL COMPILER   OCaml
Developed a compiler to x86 Assembly for a Python-like functional programming language with type checking/inference, garbage collection, I/O and more.

POO-NU   HackHarvard
Assembled React Native application with Google Maps API, GraphQL and MySQL to help students find Northeastern campus bathrooms.

SYSTEM CONFIGURATION   NixOS
Iterating on a custom Arch Linux System.

COURSEWORK / PROJECTS   Northeastern
Games in ISL/Java, a shell and FUSE-based file system in C, a quiz sharing application with Python's Flask and SQL, interpreters for many toy languages in Haskell, and a substantial compiler for a typed functional programming language in OCaml.
Code for these projects is available upon request as per Northeastern policy.