Danila Fedorin

🏠 **Corvallis, OR**   📞 **(503) 702 0929**   ✉ **danila.fedorin@gmail.com**

Education

Oregon State University, Corvallis, OR
Bachelor of Science, Computer Science,
Expected June 2020
4.0 GPA

Technical Skills

Languages: C, C++, Java, Kotlin, JavaScript, Haskell, Python, Haxe
Operating Systems: MacOS, Linux
Additional Skills: Experience with compiler design, algorithm efficiency, low-level development.

Projects

abcs 🔗
Calculator program with a complete embedded programming language.

chalk 🔗
Compiler from a small imperative language into CHIP-8 bytecode.

pegasus 🔗
LALR parser generator currently supporting the C and Crystal languages.

scylla 🔗
Elm-based purely functional front end for the Matrix chat protocol.

Publications

Jácome Cunha, Mihai Dan, Martin Erwig, **Danila Fedorin**, Alex Grejuc: *Explaining spreadsheets with spreadsheets (short paper).* GPCE 2018: 161-167

Experience

Research Assistant, Programming Language Theory
Oregon State University, Corvallis, OR | Spring 2018 - Present

- Devised and implemented language to explain behavior of spreadsheets to new users.
- Developed tooling in **Haskell** to verify, generate, and debug the explanation language.
- Contributed to **research paper** published to the International Conference on Generative Programming.
- Formalized operational semantics of new **explanation-oriented programming language.**

Blog Author
Independent | Spring 2015 - Present

- Designed and published website currently live at danilafe.com.
- Authored blog posts on topics spanning data structures, web development, programming languages, and compilers.
- Created **11-part series** on compiler development, walking readers through lexing, parsing, compilation using LLVM, garbage collection, and polymorphic type checking.

Undergraduate Teaching Assistant, Programming Language Theory, CS 381
Oregon State University, Corvallis, OR | Winter 2020 - Spring 2020

- Engaged in weekly question-and-answer sessions regarding course topics.
- Aided students in implementing a final project in the form of a **custom programming language**.
- Proctored **quizzes and exams** for over 200 students.
- Hosted **independent review sessions** attended by over 70 students.

Lead Programmer
Northwest Advanced Programming Workshop, Portland, OR | Summer 2017

- Designed and implemented a **desktop calculator** application with a focus on usability and feature-completeness.
- Worked on a variety of components, including parsing input through a custom regular expression engine, evaluating expressions through Taylor Series, and UI design.
- Profiled and debugged application using **VisualVM** in order to find inefficiencies, reducing computation time by 60%.
- Led a small team using the **git version control system**.
- Exercised public speaking and communication skills by reporting progress to supervisor and presenting to other teams.

Game Developer
Oregon Game Project Challenge, Portland, OR | Spring 2016 and 2017

- Worked in a team to complete video game to be presented at main event.
- Created a game engine from scratch using **Entity Component Systems** architecture.
- Used **OpenGL shaders** and normal mapping to create 2D-shadow system.
- Developed novel interaction between physical components (**microcontrollers**) and the video game for multi-user cooperation.

Honors and Awards

- *Honor Roll (every academic term)* — Awarded to students maintaining a full credit load and a GPA above 3.5.
- *International Baccalaureate Diploma Scholarship* — $1,000/term scholarship awarded to recipients of the IB Diploma.
- *Finalist* — Google Code-In 2016, online competition in which participants complete tasks for open-source projects.