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I'm Vlad, an independent researcher working on software and philosophy that contributes to the public good.

I work as a software developer and frequent Open Source contributor, with 19 years of experience spread across systems programming, data science (particularly life sciences), performance optimisation, 3D graphics, web technologies of all types, compilers and C.

I am projected to get my philosophy PhD in 2028 and my main interests are moral philosophy and social epistemology.

I work at the forefront of projects designed to mitigate the Open Source sustainability crisis.

Most importantly, I am good at quickly and thoroughly learning difficult technologies and doing deep research on unfamiliar topics.

I love cats and birds.

PROFESSIONAL EXPERIENCE

Peony Software   2022–present
Founder

Peony Software is a software studio that I run, focused on exclusively developing software that benefits the public good. I am the only permanent member, but frequently collaborate with around a dozen prolific Open Source contributors who also have extensive experience in building technically complex projects used by millions, as well as researchers and artists. Here is a selection of my work.

- **Open Source Pledge:** I co-maintain the Open Source Pledge, which I helped develop in collaboration with Sentry. The Pledge, which launched internationally on 8 Oct 2024, is an initiative which aims to get companies to pay the maintainers of the Open Source software they depend on. This initiative is helping to correct the dramatic underfunding of Open Source software, which leads to maintainer burnout and serious security issues on a global scale.

  I developed most of the software the Pledge relies on, liaised with decision makers such as CEOs at prominent tech companies, and developed and promoted the philosophy of the Pledge

together with my collaborators. My work has also involved creating innovative Open Source supply chain analysis software, producing video content, creating photorealistic 3D graphics and supervising psychological research. Our members, some of which I recruited, have paid $5,304,263 to Open Source maintainers since our launch.

My work on the Pledge has been publicly praised by the Open Source Initiative, the PHP Foundation, Open Source Collective, Ruby Central, the Perl and Raku Foundation, the Django Software Foundation, venture capital firm Accel, the creators of Open Collective, ESLint, Vue.js, and others. The Pledge has been featured on the Nasdaq screen in Times Square three times (1, 2, 3). I have been interviewed in the SF Gazetteer, spoke at FOSDEM 2025 (the largest Open Source event in the world), and my work has been covered by TechCrunch, GitHub, The New Stack, InfoQ, IEEE Spectrum, Open Source Ready, Theo - t3.gg, The Register (1, 2), InfoWorld (1, 2), It's FOSS (1, 2), Forkable (1, 2, 3), The Repository, Technical.ly, and taught in classes at Columbia University.

- **Open Source Endowment**: I serve as an advisor to the board of the Open Source Endowment, the first ever endowment to target Open Source software. The Endowment's aim is to mitigate the Open Source sustainability crisis by funding the work of keystone maintainers. My role has involved giving advice on the underlying fund allocation model, developing Open Source supply chain analysis software, and helping refine the philosophy of the Endowment. The Endowment currently holds around $471,000, which we have raised from prominent members of the software community.

- **thanks.dev**: I am a core developer of thanks.dev, a service that enables companies to analyse their codebases in order to determine which Open Source maintainers they depend on, then pay those maintainers for their work. This service, which is making a big impact on the state of Open Source funding, is unique in its transparency and ease of use. As part of my work on thanks.dev, I've had to write code that processes millions of lines of code worth of private codebases, while ensuring that code analysis and payment flows are always maximally intuitive for users. My work is regularly relied on by large companies such as Twitter founder Jack Dorsey's Cash App, Sentry, and others.

Here is a selection of my Open Source contributions:

- I am one of the maintainers of the Hare programming language. My contributions include a regular expression engine written from scratch that offers better performance than those of programming languages such as Python or Javascript, neural networks, comprehensive mathematical programming tools, date/time arithmetic, 2D and 3D graphics libraries, a linear algebra library, as well as other contributions to the language such as tuple unpacking. My work has enabled programmers to use the Hare language for 2D/3D graphics and numerical/scientific programming. I also serve a technical leadership role in my areas of technical expertise, and previously served a cultural leadership role, guiding over 100 contributors. Hare has been covered in The Register.

- I have made significant contributions to Sciris, a scientific Python library used by hundreds of researchers, including in one of the most widely adopted models of COVID-19. I have also contributed to Atomica, a simulation engine for compartmental models which can be used to simulate disease epidemics and health care cascades. This work is currently in use by the Gates Foundation as part of their internal portfolio management tools.
- I am the primary maintainer of mpld3, a scientific data visualisation tool originally developed by Google researcher Jake Vanderplas. mpld3 is among the top 0.6% of the most downloaded Python packages on PyPI, with over 13 million downloads.
- I have contributed to SourceHut, the largest Open Source hacker forge, providing code hosting and other services to over 40,000 users. My contributions have included new features such as license support in Git repositories.
- I am working on the peony game engine, a research project in building a full-featured 3D video game engine entirely from scratch in C++. My work on this game engine has been used for educational purposes by students at top USA universities, and featured in a PhD thesis.
- I have made contributions, some large and some very small, to numerous other Open Source projects, such as SDL and Glad (widely-used graphics technologies), npm (the most widely-used package manager in the world), tldraw, iced (a popular Rust GUI library), Wiktionary and motî via dīgerō, uxn, senpai, dezoomify-rs, REUSE and others.

Saffron   2012–2022

Co-founder, Head of Software

In 2012, I founded Saffron, a software development company, together with my business partner. Despite starting with no funding, I played an instrumental part in growing Saffron to a company with over £400,000 in yearly revenue, offices in Romania, Switzerland and the Netherlands, and 12 employees. Our main focus was data visualisation software for scientific data, as well as web applications. Across a decade, I was responsible for the technical architecture of all of our projects, and worked closely with our team on the projects' development. This required me to have expert-level knowledge of web and scientific programming, Python, Javascript, and many other technologies. I also mentored around 25 employees in total, teaching programmers of all experience levels from first principles. I led work on over 30 projects, including:

- **50five & Ajusto:** I coordinated all technical aspects of a 6-year-long effort funded by multi-national energy company Engie to build a home services application for the Netherlands, Belgium, the UK and Romania. I built large swaths of backend, frontend and mobile software to be used across all deployments of the service, architected time-critical systems such as scheduling and invoicing together with the client and rolled out the necessary infrastructure. My leadership role involved coordinating around 50 international collaborators and stakeholders. This project alone attracted over £1m in revenue, and the software I architected is still active in Belgium and the Netherlands, having been used by over 10,000 customers.
- **ICGenealogy:** In collaboration with the Centre for Neural Circuits and Behaviour at the University of Oxford and the Laboratory of Computational Neuroscience at the EPFL, I

developed a piece of software for visualising ion channels, a kind of neuroscience research data. Because this project was to be used in cutting-edge research at dozens of universities worldwide, its development required me to combine scientific programming expertise with user-friendly architecture and interfaces. A professor in Computational Neuroscience at the University of Cambridge described my work as having "a level of UI sophistication and user-friendliness that is simply unprecedented in our field".

- **Optima**: I worked together with researchers from the Optima Consortium for Decision Science to help them build Open Source data science tools that help decision-makers choose the best public health investments. My work allowed researchers to adapt code to different diseases roughly 10 times faster than before. The Optima model has been used in around 40 countries, most significantly by the Gates Foundation, and has been used to make decisions on how to allocate roughly US\$1 billion of funding across different health priorities, including HIV, tuberculosis, nutrition, and malaria.
- Other clients I've worked with include the Swiss Post, the City of Basel, Switzerland, the University of Copenhagen, GlaxoSmithKline, the Burnet Institute, and the Romanian Government.

Submodule   2018–2022
Co-founder, Head of Software

At Submodule, my co-founder and I built the GB01, a device that allows users to manage, Nintendo Game Boy video game cartridges using a modern interface. This project was technically demanding as it required me to develop both a cross-platform desktop application and embedded C software on the device itself. The GB01 has been purchased by over a thousand customers and positively reviewed online.

clumsy computer   2020–present
Host

Due to my frustration with the shortcomings of current programming resources, I started a Twitch and YouTube channel called *clumsy computer* in 2020. On this channel, I teach programming from first principles based on a "from scratch" approach, which enables students to understand fundamentals of software more deeply. *clumsy computer* has received strong praise from learners.

PUBLICATIONS AND TALKS

Peer-Reviewed Papers

- Kerr CC, Sanz-Leon P, Abeysuriya R, Chadderdon GL, **Harbuz VS**, Saidi P, del Mar Quiroga M, Martin-Hughes R, Kelly SL, Cohen JA, Stuart RM, Nachesa A. *Sciris: Simplifying scientific software in Python*. The Journal of Open-Source Software 2023, 8(88), 5076.

- Kedziora DJ, Abeysuriya R, Kerr CC, Chadderdon GL, **Harbuz VS**, Metzger S, Wilson DP, Stuart RM. *The Cascade Analysis Tool: software to analyze and optimize care cascades*. Gates Open Research 2019 3:1488.

Contributions to Peer-Reviewed Papers

- Podlaski WF, Seeholzer A, Groschner LN, Miesenböck G, Ranjan R, Vogels TP. *Mapping the function of neuronal ion channels in model and experiment*. eLife 2017 6:e22152.

Other Publications

- Anticipations Summer 2023   17 Jul 2023
  Long-Term Members of our Communities Should Be Able to Vote

Talks

- FOSDEM 2026   Brussels, 31 Jan 2026
  Binary Dependencies: Identifying the Hidden Packages We All Depend On
- PPE Society   London, 15 Jul 2025
  The Hidden Non-Market Workers That Keep Markets Going: Why Companies Should Pay Open Source Maintainers
- The Association for Social and Political Philosophy   Glasgow, 15 Jul 2025
  The Hidden Non-Market Workers That Keep Markets Going: Why Companies Should Pay Open Source Maintainers
- AltCtrlOrg — Invited, >200 attendees   Basel, 06 Feb 2025
  Open Source: Deceptive Power or Collective Governance?
- FOSDEM 2025 — ~100 attendees   Brussels, 02 Feb 2025
  Why and How Companies Should Pay Open Source Maintainers
- Statistical Office of Basel, Switzerland — Invited, ~50 attendees   Basel, 19 Apr 2019
  Ways to Tell a Story With Data Visualisation

Media Appearances

- Gazetteer SF   24 Oct 2024
  Wild billboards around the Bay call attention to tech companies free-loading off open source projects by Megan Rose Dickey

Education

- **PhD Philosophy**, University of Edinburgh   2024-2028
  As part of my PhD, I am researching ideology and the philosophy of work, to determine what parts of our culturally inherited ideas lead us to epistemic practices which cause us to eg accept our exploitation. My committee chair is Barry Maguire, and the other members of my committee are Berislav Marušić and Matthew Chrisman.
  Areas of specialisation: Epistemology, Political and Social Philosophy.
  Areas of competence: Philosophy of Language.
- **MScR Philosophy** (Distinction), University of Edinburgh   2023-2024
  In my thesis, *Practical Belief and Epistemic Alienation*, I argued that we can believe not only for factual reasons, but also for practical reasons, ie because believing would bring about a favourable outcome. I explained that this can lead to epistemic alienation. My thesis received a Distinction, the highest mark available, and was examined by Berislav Marušić and Robin McKenna. My supervisor was Barry Maguire.
- **MA Philosophy** (Merit), University College London   2022-2023
  In writing my thesis, titled "Epistemic Alienation", I researched the philosophy of work and how self-alienation makes us epistemically blind to choices we would otherwise be able to make, and described this using Fricker's idea of epistemic injustice. My supervisor was Han van Wietmarschen.
- **MSc Computational Biology and Bioinformatics** (not completed)   2019–2020
  ETH Zürich & Universität Basel
  Relevant courses: Advanced Machine Learning, Biofluiddynamics, Cell and Molecular Biology, Computational Biology, Data Mining, Spatio-Temporal Modelling in Biology. I left this two-year course after one year to pursue other work.
- **BSc Computer Science** (First Class), The University of Manchester   2013-2016
  Relevant courses: Machine Learning and Optimisation, AI and Games, Symbolic AI, Advanced Computer Graphics, Computer Vision, Compilers, Operating Systems, Natural Language Systems. My Final Year Project was entitled "Modelling Classical Music with Machine Learning", supervised by Allan Ramsay.

I've also studied linguistics for a term at the University of Basel with Heike Behrens, and classical composition and music theory for a year as part of unmatriculated studies at the Musik-Akademie Basel. I speak native English and Romanian, fluent German and intermediate Japanese.