

# Emil Levo

Game Programmer  
Computational Physicist

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## Who Am I?

A 27 year old doctor in computational physics, now turned to game programming. Currently working as a Game Programmer at Heroic Games, and studying Game Design and Development at Aalto University. My main areas of interest include gameplay programming, graphics programming and high performance computing.

## Programming

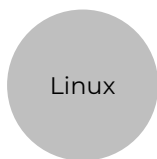
C#	<div></div>
Python	<div></div>
C++	<div></div>
Bash	<div></div>
Fortran	<div></div>

## Game Engines



UE

## Other Tools



## Experience

- |             |  |   |
|-------------|--|---|
| 2022 –      | <b>Game Programmer</b><br>Unity / C# / Shader Graph / Quantum - Photon Engine  | <b>Heroic Games</b>                             |
| 2021 – 2022 | <b>Research Assistant</b><br>Research experience projects (REPs) alongside my studies in Game Design and Production. The first REP was a study of real world geographical data usage in video games. The second REP was a study of the effect anisotropic filtering parameters had on individual pixel colours in an image.<br>Graphics / Unity / Real World Data / Python   | <b>Aalto University</b>                         |
| 2019 – 2021 | <b>Doctoral Researcher</b><br>Computational research of irradiation damage in high entropy alloys for fusion reactor applications. The work included running computationally intensive molecular dynamics irradiation simulations, analyzing irradiation damage in simulated samples, publishing results via peer-reviewed articles in journals related to the field, and teaching.<br>Molecular Dynamics / OVITO / Linux / Python | <b>University of Helsinki</b>                   |
| 2015 – 2019 | <b>Research Assistant</b><br>Computational research of irradiation damage in high entropy alloys for fusion reactor applications.<br>Molecular Dynamics / OVITO / Linux / Python   | <b>University of Helsinki</b>                   |
| 2014        | <b>Museum Guard</b><br>Guarded and gave guided tours of an exhibit honouring the 300th anniversary of a naval battle fought in the Gulf of Finland.<br>Guarding / Guiding / Customer service   | <b>Rilaxmonumentets traditionsförening r.f.</b> |

## Education

- |             |   |                               |
|-------------|---|-------------------------------|
| 2021 –      | <b>Master's Degree</b><br>Master's Programme in Computer, Communication and Information Sciences<br>Major: Game Design and Production | <b>Aalto University</b>       |
| 2019 – 2022 | <b>Doctoral Degree</b><br>Doctoral Programme in Materials Research and Nanoscience  | <b>University of Helsinki</b> |

2017 – 2019	<b>Master's Degree</b> Master's Programme in Materials Research Line: Computational Material Physics	University of Helsinki
2014 – 2017	<b>Bachelor's Degree</b> Degree Programme in Physical Sciences Major: Theoretical Physics	University of Helsinki

### Teaching

2017 – 2019	<b>Teaching Assistant</b> Mathematics for Physicists I Basics of vector calculus, power series, differential calculus, integral calculus	University of Helsinki
2017 – 2019	<b>Teaching Assistant</b> Mathematics for Physicists II Complex numbers, ordinary differential equations, vector calculus	University of Helsinki
2018 – 2021	<b>Teaching Assistant</b> Mathematics for Physicists III Linear algebra, vector calculus	University of Helsinki

### International Experience

2019	<b>ICFRM 2019</b> International conference on fusion reactor materials Poster presentation	San Diego
2014 – 2015	<b>Lancaster University</b> First year BSc physics studies.	Lancaster

### Publications

- [1] Levo, E. (2022). Radiation Damage in High Entropy Alloys. University of Helsinki.
- [2] Levo, E., Granberg, F., Utt, D., Albe, K., Nordlund, K., & Djurabekova, F. (2019). Radiation stability of nanocrystalline single-phase multicomponent alloys. Journal of Materials Research.
- [3] Levo, E., Granberg, F., Fridlund, C., Nordlund, K., & Djurabekova, F. (2017). Radiation damage buildup and dislocation evolution in Ni and equiatomic multicomponent Ni-based alloys. Journal of Nuclear Materials, 490, 323-332.
- [4] Granberg, F., Djurabekova, F., Levo, E., & Nordlund, K. (2017). Damage buildup and edge dislocation mobility in equiatomic multicomponent alloys. Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, 393, 114-117.

### References

<b>Prof. Kai Nordlund</b> Supervising professor of doctoral studies Email: kai.nordlund@helsinki.fi Mobile: +358-40-5562806	University of Helsinki
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### Languages

**Swedish** - native  
**Finnish** - native  
**English** - excellent

### Hobbies

If not working, or studying, one can most certainly find me at the gym, playing games, cooking, writing my book, or planning my future winery.

### Military Service

Served as a conscript in the Finnish Defence Forces for a year. Underwent non-commissioned officer training and gained valuable leadership skills.