# Alexander Ionkov

Denver, Colorado, United States | alex@ionkov.net | (505) 500-6380
linkedin.com/in/aionkov | ionkov.com

## Education

**Bachelor of Science in Computer Science**
University of Wisconsin Madison • Madison, WI • Graduated in December 2021

## Experience

**Senior Software Engineer** March 2026 – Current, Remote
*Alteryx*

- Led design and rollout of Module Federation in the desktop shell, enabling runtime-configured micro-frontends
- Built offline mode, including a connectivity banner, local file access and gating of cloud-only actions
- Cut CI pipeline times with nextest, sccache and cargo caching
- Fixed cross-product navigation and history handling, and upgraded the UI to Onyx 10 and MUI v9

**Software Engineer** February 2021 – March 2026, Remote
*Alteryx*

- Led Universal IRG, a shared data-results component reused across Alteryx Cloud products
- Built D3 correlation and clustering visualizations, and bulk data-type editing for AutoML
- Built a TypeScript transpiler converting Designer workflows into cloud analytic apps
- Shipped Analytic Apps features: file upload, publishing, workspace-GID redirects, onboarding tours and sharing controls
- Led Onyx 8, UI Core 6 and React upgrades across the UI repos, and added Black Duck scanning and e2e tests to CI
- Helped build the Nexus desktop shell: navigation panel, app bar, global search, Designer IPC handshake and release pipeline

**Student Developer** May 2020 – October 2020, Remote
*Google Summer of Code @ Kodi*

- Built an Elm single-page web interface for Kodi's media library, replacing the existing Chorus UI
- Implemented live playback control (progress, volume, shuffle, repeat) over the WebSocket JSON-RPC API
- Built music, movie, TV show, video and file-browser pages, with library scanning
- Added local playlists persisted in localStorage through Elm ports, and packaged it as a Kodi addon

**Software Engineer Intern** March 2019 – March 2020, Madison, WI
*Morgridge Institute for Research*

- Built a Python pipeline measuring protein abundance in RNA-Seq reads, with a scraper using the NCBI E-Utils API
- Led initiative to replace project testing framework from Unittest to Pytest.

## Projects

**Projector web app** – *project textures onto 3D models, for tattoo and clothing designs*

- Built a cross-platform, browser-only experience with React Three Fiber, Zustand and GLSL

**3dconvert.me** – *custom avatar generation AI pipeline*

- Built the frontend and API pipeline (JS, Python, AWS) chaining open source AI models to turn a body image into a rigged 3D avatar
- Exports OBJ, FBX, GLB and STL, so avatars can be animated or 3D printed

## Publications

- Bukhman, Yury V., et al. "A high-quality blue whale genome, segmental duplications, and historical demography." (2022).
- Hlavacek, W. S., Csicsery-Ronay, J. A., Baker, L. R., Álamo, M. D. C. R., Ionkov, A., Mitra, E. D., ... & Thomas, B. R. (2019). A step-by-step guide to using BioNetFit. In *Modeling Biomolecular Site Dynamics* (pp. 391–419). Humana Press, New York, NY.
- Mitra ED, Suderman R, Colvin J, Ionkov A, Hu A, Sauro HM, Posner RG, Hlavacek WS (2019) PyBioNetFit and the Biological Property Specification Language. *iScience* 19: 1012–1036.
- Mitra, E., Suderman, R., Ionkov, A., Hlavacek, W., & National Institutes of Health. (2018). PyBioNetFit. Los Alamos National Lab. (LANL), Los Alamos, NM (United States).

## Skills

TypeScript, Python, Java, C, JavaScript, Elm, Three.js, HTML, CSS, Node.js, Electron, Pytest, Flask, Firebase, Elm-UI, Bash, Git, Solidworks, Maya, Rhino, Unity