Dr. Peet Cremer

* 27/01/1988
Transistorfaret 9, 1396 Billingstad, Norway | +47 917 42 389
peet.cremer@gmail.com | Peet Cremer | @PeetCremer | Publication list

Engineering Leader with deep expertise in AI, Machine Learning, and scalable data platforms. Combines hands-on technical excellence in Python, C++, and Rust with proven strategic leadership experience managing teams of up to 19 engineers. Background in Statistical Physics and Machine Learning with a track record of delivering production ML systems and building high-performing engineering teams. I have an outgoing personality, build trust through honesty, employ strategic thinking, and base decisions on facts and data.
My experience spans both individual contributor and management roles, allowing me to leverage technical depth and leadership expertise to drive innovation in AI evaluation frameworks and productivity tooling at scale.

WORK EXPERIENCE

Principal Engineer – Atlas AI
COGNITE (Oslo, Norway) 02/2025 - today

Leading technical innovation in AI evaluation and productivity tooling at Cognite's Atlas AI division. Driving the development of comprehensive evaluation frameworks to measure the performance of industrial AI agents and underlying natural language processing tools.

- **AI Evaluation Frameworks**: Architecting and implementing evaluation systems to measure Atlas AI industrial agents and NLP tools interfacing with Cognite's data platform
- **AI Productivity Tools**: Leading organization-wide adoption of AI development tools including Cursor, Bolt, Claude Code, Gemini Code Assist, and Model Context Protocol (MCP) servers
- **Cross-functional Leadership**: Collaborating with Legal, Security, and Procurement teams to ensure compliance, risk mitigation, and successful tool rollouts across the engineering organization
- **Strategic Implementation**: Managing end-to-end procurement processes and conducting training sessions to maximize tool adoption and effectiveness

Recognized by CEO Girish Rishi for contributions to AI tooling strategy in company-wide communications and LinkedIn posts.

Senior Director of Engineering
COGNITE (Oslo, Norway) 02/2024 - 2/2025

Senior engineering leadership role overseeing multiple teams and strategic initiatives across Cognite's engineering organization. Led both technical excellence and organizational growth during a critical expansion phase.

- **Team Leadership**: Managed 10-15 developers across multiple teams focusing on data integration, data connectivity, and AI initiatives
- **Global Expansion**: Spearheaded hiring strategy and execution for Cognite's new India Center of Excellence, defining staffing plans and establishing engineering operations in Bengaluru
- **Strategic Product Development**: Collaborated on product strategy development for Contextualization services, aligning technical roadmaps with business objectives
- **Organizational Culture**: Contributed to culture building initiatives and engineering best practices across the broader organization
- **Technical Architecture**: Provided strategic technical guidance on data platforms, ML systems, and engineering workflows

Director of Engineering
COGNITE (Oslo, Norway) 02/2023 - 02/2024

Engineering management role with dynamic team growth and strategic organizational challenges. Successfully scaled team from 5 to 18 developers while maintaining technical excellence and delivery commitments.

- **Rapid Team Scaling**: Grew engineering organization from 1 team of 5 developers to 3 teams totaling 18 developers at peak, with typical management span of 10-15 direct reports
- **Technical Focus Areas**: Led teams specializing in contextualization of industrial data, data-driven troubleshooting applications, and parsing of engineering diagrams
- **Organizational Flexibility**: Adapted to fluctuating team structures and filled gaps across multiple initiatives while maintaining one stable core team
- **Strategic Leadership**: Balanced aggressive growth targets with quality delivery and team development during a critical expansion phase

Demonstrated ability to manage complex organizational dynamics while delivering on ambitious technical roadmaps.

Senior Machine Learning Engineer and Tech Lead
COGNITE (Oslo, Norway) 08/2021 - 02/2023

- Leading a cross-functional team of 5 software / ML engineers
- Implementing intelligent algorithms to find context in otherwise unstructured industrial data
- Scaling and maintaining microservices to deploy those algorithms in an SaaS setting
- Creating data infrastructure capabilities to build up an industrial knowledge graph

AI Lead Developer
APTIV (Wuppertal, Germany) 12/2020 - 07/2021

- Planning and execution of Machine Learning and Data Infrastructure projects in the automotive industry
- Design of AI solutions for automotive perception tasks. Guiding the software and hardware integration into the test vehicle
- Participated in a lot of innovation, leading to 7 patents and 1 publication (see publication list)

Software Development Expert
APTIV (Wuppertal, Germany) 07/2017 - 12/2020

- Leading development of a data platform for storage and retrieval of automotive sensor data as a product owner
- Development of infrastructure solutions for artifical intelligence in automotive applications
- Established a microservice architecture to automate AI workflows
- Supervision of a Master Thesis on using GANs for automotive data style transfer

EDUCATION

Doctor (Ph.D.), Theoretical Soft Matter Physics — University of Düsseldorf — 2013 - 2017

- Topic: Mesoscale modeling of magnetic elastomers and gels – theory and simulations
- Solving magneto-elastic coupling models using numerical simulations, the finite element method, and density functional theory
- Resulted in 7 publications in recognized peer-reviewed journals (see publication list)

Master of Science (M. Sc.), Physics — University of Düsseldorf — 2012 - 2013

- **Gpa: 1.1** (grades at german university range from 1.0 (best) to 4.0 (worst)). Minor: Mathematics
- Focus on Soft Matter, Plasma Physics, Solid-State and Nanophysics
- Master thesis: "Emergent states in active systems" was published as a journal article

Bachelor of Science (B. Sc.), Physics — University of Düsseldorf — 2008 - 2012

- **Gpa: 1.2** (grades at german university range from 1.0 (best) to 4.0 (worst)). Minor: Mathematics
- Bachelor thesis: "Orientational fields in Plastic Crystals" was published as a journal article.

SKILLS

Programming languages	Python, C++, C, Rust, Typescript
IT working knowledge	Docker, GitLab, GitHub, VS Code, MongoDB, PostgreSQL, flask, FastAPI, Kubernetes, Grafana, REST, Linux, Node.js, Azure, GCP, LaTeX, MS Office
Libraries and frameworks	TensorFlow, PyTorch, scikit-learn, fastAPI, flask, numpy, scipy, Qt, pandas, OpenMP

Machine Learning techniques	SVMs · Gradient Boosting · Evolutionary algorithms · Decision Trees · CNNs
Agile software development	Scrum · Kanban · Jira · Confluence
Languages	German (native) · English (C1) · Norwegian (B2) · French (A2)

ACHIEVEMENTS, HONOURS, AND AWARDS

- Best Poster presentation at the 15th German Ferrofluid Workshop in Rostock (2015).
- DAAD scholarship "RISE in North America" for a three month research internship at Yale University, CT (2010)

PROJECTS I CONTRIBUTED TO AS MANAGER OR INDIVIDUAL CONTRIBUTOR

LLM Finetuning for Industrial Natural Language Querying
COGNITE, Oslo, Norway — 02/2025 - 04/2025

Collaborated with a colleague to finetune large language models for enhanced natural language querying (NLQ) performance on Cognite's industrial knowledge graph. Created curated datasets of NLQ problems with ground truth answers to improve model accuracy for industrial data contexts.

- Developed specialized training datasets for industrial domain NLQ tasks
- Implemented model finetuning pipelines and evaluation frameworks
- Achieved measurable improvements in query accuracy and relevance for industrial use cases

Work was highlighted by CEO Girish Rishi in a LinkedIn post showcasing Atlas AI capabilities.

Comprehensive LLM Benchmarking for Atlas AI Features
COGNITE, Oslo, Norway — 02/2025 - 04/2025

Led comprehensive benchmarking initiative to evaluate state-of-the-art LLM models on Cognite Atlas AI capabilities, focusing on natural language querying (NLQ) and Document Question Answering (DQA) for industrial knowledge graphs.

- **Evaluation Infrastructure**: Designed and implemented scalable benchmarking systems with hundreds of curated test cases
- **Multi-vendor Analysis**: Evaluated models from Anthropic, OpenAI, Google, DeepSeek, and Mistral across instruction-tuned and reasoning variants
- **Strategic Impact**: Analysis directly informed LLM selection decisions for Atlas AI agent architecture

Delivered external benchmark report providing industry insights on LLM performance for industrial AI applications.

Enterprise AI Productivity Tools Implementation
COGNITE, Oslo, Norway — 03/2025 - 06/2025

Spearheaded organization-wide adoption of AI-powered development tools to enhance engineering productivity. Led comprehensive evaluation, procurement, and implementation strategy for cutting-edge AI coding assistants and development platforms.

- **Tool Evaluation**: Assessed Cursor, Windsurf, Bolt, Claude Code, Gemini Code Assist, and Model Context Protocol (MCP) servers for enterprise readiness
- **Procurement Leadership**: Managed end-to-end procurement process including legal compliance, security risk assessment, and vendor negotiations
- **Cross-functional Collaboration**: Coordinated with Legal, Security, Architecture, and Procurement teams to ensure regulatory compliance and risk mitigation
- **Change Management**: Conducted training sessions and rollout strategies to maximize adoption and effectiveness across engineering teams

Recognized by CEO Girish Rishi in a LinkedIn post highlighting contributions to engineering innovation.

Strategic Hiring Initiative for India Center of Excellence
COGNITE, Oslo, Norway — 06/2024 - 12/2024

Led strategic hiring initiative for Cognite's new engineering center in Bengaluru, India. Developed comprehensive staffing strategy and execution plan for establishing a center of excellence focused on AI and industrial data platforms.

- **Strategic Planning**: Designed staffing plan and organizational structure for new engineering center from ground up
- **Hiring Process Development**: Created job descriptions, interview processes, technical assessments, and take-home assignments for 20+ engineering roles
- **Execution Leadership**: Distributed hiring pipelines across management team and maintained regular progress tracking against hiring goals
- **Cross-team Coordination**: Collaborated with local and international teams to ensure seamless integration and knowledge transfer

Contributed to successful inauguration of India Center of Excellence supporting Cognite's global expansion strategy.

Vectorstore for retrieval augmented generation
COGNITE, Oslo, Norway — 04/2023 - 08/2023

- Vector similarity lookup service build on top of the Weaviate vector database
- Enables to retrieve relevant context for LLM queries to enable an industrial chatbot and code completion experience

Data backend to store an industrial knowledge graph
COGNITE, Oslo, Norway — 06/2022 - 08/2022

- Creating a backend to store symbols and process lines extracted from engineering diagrams in an industrial knowledge graph
- Implemented in Python and Typescript and interfaces to COGNITE's internal flexible data modeling service
- Allows for advanced graph queries on the knowledge graph and, thereby, enables advanced interactions with the industrial reality

Annotation API to store auxiliary label data on files
COGNITE, Oslo, Norway — 08/2021 - 06/2022

- Implemented a REST API to store label information on files within COGNITE's data warehouse
- Went from design to fully productive usage with SLAs in less than a year

- Implemented in Python on top of *PostgreSQL* using *SQLalchemy* and *flask*. Flexible annotation type system enabled by *pydantic*

Intelligent document scanning tool — COGNITE, Oslo, Norway — 03/2021 - 06/2022

- Contributed to a document scannnig tool that detects relevant fields in scanned forms and automatically extracts their values, significantly reducing the human effort required
- Using Azure OCR to detect text instances together with a line detection algorithm to extract tables and fields. Combined with hand-crafted rules to make the field extraction more robust

Live execution of detection network in test vehicle — APTIV, Wuppertal, Germany — 11/2020 - 12/2020

- Deployed a 3d bounding box detection network on Nvidia Jetson Xavier hardware
- Optimizations and tweaks to make an automotive detection network fast enough to run live in the test vehicle

Runtime environment for AI algorithms — APTIV, Wuppertal, Germany — 06/2020 - 10/2020

- Runtime environment written in Rust for live execution of AI algorithms in test vehicles for demo purposes
- Main contributions: Preprocessing from the raw sensor data into the TensorFlow network input, subsequent postprocessing of the network results into bounding boxes for visualization, as well as abstractions to allow for different combinations of sensors and networks

Tooling for neural network training — APTIV, Wuppertal, Germany — 02/2020 - 03/2020

- Python / Rust tooling to download sensor data and ground truth from a data warehouse and refine it for neural network training
- Sophisticated interpolation algorithm for 3d bounding boxes to arbitrary timestamps
- Using HDF5 as final data exchange format

Machine Learning automation using microservices — APTIV, Wuppertal, Germany — 03/2020 - 05/2020

- Established a Python microservice framework for the automatic execution of Machine Learning algorithms
- Automatic triggering of execution pipelines on trigger events, such as the availability of new data

Deploying a facial expression detection system — Affectiva, Boston, MA — 08/2019

- Short-noticed support of cooperation partner Affectiva in Boston to mitigate risk in a customer project
- Made key contributions for deploying a facial expression detection system using TensorFlow and TF-Lite

Product Owner for a data warehouse project — APTIV, Wuppertal, Germany — 02/2019 - 02/2020

- Lead of a SCRUM team of 5 developers to establish a data warehouse for automotive sensor data and algorithm results
- Access to automotive driving scenarios for the development of AI-based driver assistance systems
- Based on MEAN stack, hosted in Azure using BlobStorage for larger binary data. Orchestrated using docker-compose
- Featuring a REST API, a Python access client, a frontend with a video playback tool, and full backend test coverage

3D object detection on automotive radar data — APTIV, Wuppertal, Germany — 12/2018 - 01/2019

- Lead a team of 5 engineers for a Deep Learning proof of concept
- Successfully demonstrated an anchor-based 3D object detection on automotive radar raw data using CNNs

Automotive recording tool — APTIV, Wuppertal, Germany — 07/2018 - 08/2018

- Development of a tool using C++ and Qt for the recording of sensor data in a test vehicle.
- Recording of LiDAR (via UDP), Vehicle host bus and radar detections (via CAN), and radar debug information (via UDP)
- Emphasis on correct timestamping of recorded sensor data, such that it can be replayed after recording

LiDAR labeling tool — APTIV, Wuppertal, Germany — 01/2018 - 12/2018

- Work on a web-based labeling tool for 3D bounding boxes in LiDAR point clouds using TypeScript
- Backend development using MEAN stack (MongoDB, Express, Angular, Node.js)
- Main contributions: User and group management and data upload

Simple raytracer to simulate FMCW Radars — APTIV, Wuppertal, Germany — 11/2017 - 12/2017

- Simulated an automotive FMCW radar by creating a simple raytracer in Python.
- Used this raytracer to simulate artificical training data for neural networks

Automatic code generator for CNNs — APTIV, Wuppertal, Germany — 07/2017 - 10/2017

- Implemented code generator in Matlab to deploy CNNs to a TI embedded chip
- Given a CNN trained in TensorFlow, this generator creates optimized C++ code to execute that CNN on the target platform

TEACHING

Co-Organizer of the NorwAI 2022 hackathon — NTNU Trondheim, Norway — 08/2022 - 10/2022

- Organizing and conducting a Data Science hackathon in Trondheim with Cognite and researchers from NTNU
- Finding a suitable dataset, defining a task, supervising the students during the event, and evaluating the contributions

Lecturer on artificial intelligence in autonomous driving — University of Wuppertal, Germany — 10/2020 - 04/2021

- Lecture "Artificial Intelligence Based Sensor Signal Processing for Autonomous Driving" held in collaboration with colleagues from APTIV
- Prepared and held lectures and exercises about Numerical Optimization in Data Science, Support Vector Machines, and Gradient Boosting

Master thesis supervision — APTIV, Wuppertal, Germany — 03/2019 - 09/2019

- Supervised a master student on using GANs for automotive data style transfer
- Created artificial LiDAR data by modding the video game GTA: V, then trained a GAN on real LiDAR data to do the domain transform
- Tested and benchmarked this approach with a birds-eye-view 2D object detection model

Bachelor thesis supervision — University of Düsseldorf, Germany — 2016

- Supervised a bachelor student on the numerical simulation of magnetic gels

Teaching assistant for theoretical physics lectures — University of Düsseldorf, Germany — 2013-2017

- Lectures: Quantum Mechanics and Statistical Mechanics
- Created homeworks and gave exercise classes
- Answered student questions about the lecture topics
- Designed and held oral and written exams

ABOUT ME

Interests I am enthusiastic about AI, tech and science related topics. To follow the recent developments in machine learning, I like to read papers on arXiv and from the ICLR conference and I follow towardsdatascience and the /r/MachineLearning subreddit. To stay on top of new trends in software engineering and science topics, I regularly browse Hacker News. Additionally I like to improve my leadership and organization skills by reading related books.

Activities Sozializing with friends has always been important to me. I am an enthusiastic Pen & Paper gamemaster since 20 years and often meet with friends to indulge together in this hobby. Keeping myself healthy with a good diet and regular exercise is another priority for me. To achieve this, I like to cook quality food with fresh ingredients, and I go running several times a week. To keep myself in shape and the environment clean, I take my racing bike to reach places whenever possible